

The Washington Press

THE ALAMEDA COUNTY PRESS

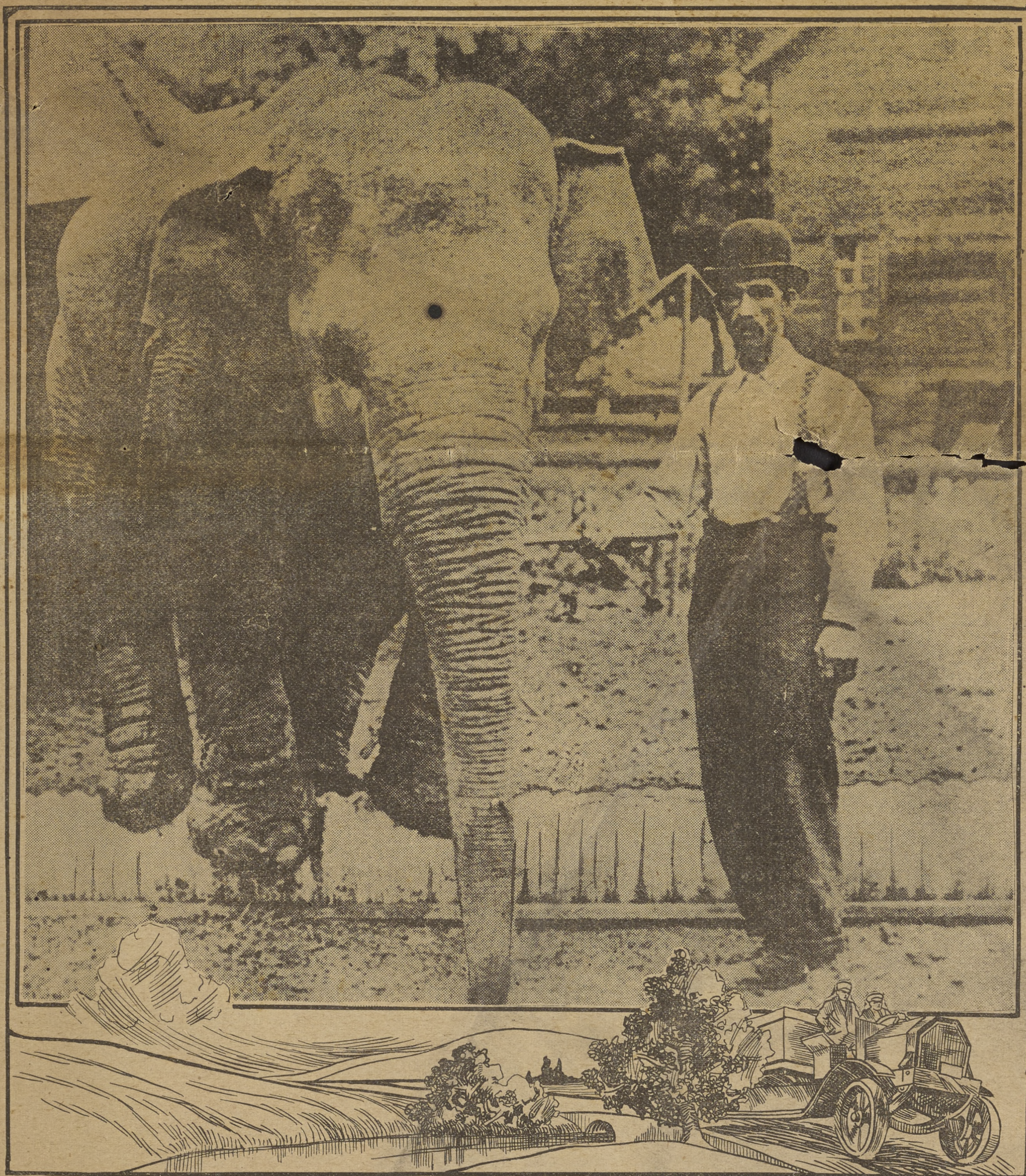


FARM SECTION

NILES, ALAMEDA CO., CAL., FRIDAY, JULY 17, 1914.

FARM SECTION

JUMBO AND HIS BALANCING STUNT



Elephants in common with mules are slow to trust their weight upon any unfamiliar or frail appearing support, and it is only by patient persuasion that they will do so. A splendid test of the strength of corrugated culverts is shown in the picture above which we have reproduced from a photograph sent us by the California Corrugated Culvert Co. Our artist's drawing shows one of these culverts in use under a public road.

THE FLOWER GARDEN

PROFIT IN THE GARDEN.

By I. W. Lloyd.

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HOME-GROWN TULIPS.

Experiments at Bellingham Point to Great Success in Bulbgrowing in the United States.

From Bulbgrowing at U. S. Gardens.

IT IS stated that tulips were introduced from Turkey by Busbecq to Vienna, and thence, about the year 1560, to the Netherlands, where their beauty and variety of coloring soon created much emulation and their popularity culminated in the historic craze known as the "Tulipomania." It is reported that at that time from 2000 to 5000 florins, equivalent to \$804 to \$2010 of American money, were paid for a single bulb of a new, especially meritorious variety.

Tulips in variety can be successfully grown in commercial quantities in many sections of the United States. The tests so far show that tulips grown at the United States bulb garden are

grown tulips, showed remarkable superiority of the home-grown product over the imported. Fifty bulbs of the same variety, from imported and Bellingham stock, respectively, were planted in rows side by side on the same date and continued under the same conditions throughout the experiment. As a rule, the plants from the Bellingham bulbs were freer from disease and flowered from five to seven days earlier than those from imported bulbs. In addition to this, the flowers were on longer stems and were of better color and quality than those from the imported bulbs. Figure 15 shows three of the varieties that were included in this test.

Forcing Tests—Figures 19 to 21, inclusive, show some of the results of a forcing test of Bellingham-grown and imported tulip bulbs during the season of 1912-13 at a greenhouse in the United States department of agriculture, Washington, D. C., and at a

No longer do the farmers of the better class content themselves with raising a few rows of potatoes, calling that their garden. It is not necessary longer for the busy farmer's wife to look after these neglected corn and potato spots for the farmer has come to understand that there is good money in them.

Time was when the farmer contented himself with raising grain crops, considering it beneath his dignity to spend time on the garden. If there was a garden on the place it was usually left to his wife and children to pull the weeds and to do any other work that was actually required.

Now, the farmer himself, with a work horse and modern garden machinery can do more work in an hour than his wife could do in a week and do it better. By careful cultivation he can make his half-acre or acre garden pay more cash money than any other acre on the farm.

The high cost of living has also



A BURBANK HYBRID AMARYLLIS.

This illustration is of one of the most robust and beautiful hybrids that Mr. Burbank has produced. One bulb purchased six years ago has now increased to sixteen bulbs and sent up this year twenty flower spikes, each bearing three to five blooms. It is well worth while for outside garden decoration in California.

superior in several respects to imported bulbs.

Propagation—The propagation of the varieties of tulips tested at the garden has been by offsets. The increase is from 67 to 273 per cent, depending upon the variety. The bulbs for the most part have been planted in beds, practically the same as hyacinths. If new varieties are desired, they are secured by means of seed.

Harvesting—The methods of harvesting tulips are essentially the same as those employed in all bulbgrowing regions. The bulbs are dug out by hand with a small, short-handled spade when the soil is at all heavy, or with the fingers when the physical condition of the soil will permit.

Furrowing Out Beds by Machinery—Machinery in connection with the bulb work is being substituted for hand labor whenever possible. To this end for the past two seasons a limited number of tulip bulbs have been planted in long, narrow beds about 18 inches wide in order to test machinery in digging the bulbs. Figures 17 and 18 show the manner of making and planting these beds at the United States bulb garden. An ordinary turning plow has been used in that section for opening beds for bulbs, but, so far as the writer is aware, this is the first time a celery ridger has been used for this purpose.

The bottom of the broad furrow that is opened with the celery ridger, drawn by a horse, is raked smooth by hand and the bulbs planted in the ordinary way from 4 to 6 inches apart in rows. With this method of planting it will be possible to test machinery in harvesting.

Outside Tests—Flowering tests on the trial grounds of the United States department of agriculture in the season of 1910 and 1911, embracing a number of varieties of Bellingham-

commercial greenhouse in the same city.

The difference between the Bellingham-grown and imported bulbs of several other varieties included in this season's forcing test are equally striking as those shown in figure 21.

In the case of the Keizerskroon variety, the difference in the size of the plants and the time of flowering is not quite so marked as in other varieties. There is, however, a noticeable difference in favor of the Bellingham-grown bulbs both in the height of the plants and the date of flowering. Flowers from Bellingham-grown bulbs were cut on February 16 and from imported bulbs on February 21 and 22, 1913. The results of the forcing tests of the season of 1912-13 verify those secured from out of doors in 1910 and 1911.

The bulbs used in these tests were not selected, but were the ordinary run of what is considered commercial stock. That these tests do not absolutely establish the superiority of Bellingham-grown tulips over imported stock is realized, and other tests will have to be made in order to determine beyond question whether or not American-grown tulips and narcissuses when forced or growing out of doors will produce better and healthier plants and yield earlier and larger flowers on longer and stronger stems than the same varieties grown in the Netherlands.

Zentaro Kawase, professor of forestry at the Imperial university of Tokio, Japan, has been making a tour of the national forests of this country to learn the government's methods of selling timber and of reforestation.

roused the inhabitants of the small towns and those who live in the suburbs of the cities make use of every foot of ground possible to produce vegetables to piece out the table supplies and as first aid to their pocket-books.

Lasting Qualities of Roses—Tea roses as a class last well when cut if they are properly treated. By cutting roses when they are the right age, cutting the stems at a long angle or splitting them for two or three inches and immersing them nearly the whole length of the stem in cool water over night will help them to last much longer when arrayed in vases. Some varieties keep much longer than others. The single varieties, as Jersey Beauty, may last for a week under favorable conditions. It is safe to assume that the more double and heavier varieties as the hybrid perpetuals will not remain fresh more than a day or two even with the best of care.

Students of the Oregon agricultural college are working at the forest nursery on the Siuslaw forest. The arrangement is said to be mutually satisfactory since the students gain experience in forest nursery practice and their assistance lowers the cost of nursery work.

Last year the fire loss on the Canadian timber reserves was the smallest ever known, only one-fiftieth of 1 per cent of the area being burned over.

Watching the growth of the century plant is certainly not an exciting occupation, but it is about the measure of some folk's ambition.

California Associated Farmer

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E. O. Essig—Secretary State Commission of Horticulture—Control of Fruit Pests.
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The Editor of the Farmer invites correspondence from any reader upon any subject that may interest country people, or have a bearing upon improvement of conditions in rural life. All departments of this paper are open for the approval or disapproval of its readers and a free expression of opinion is invited.

Address all Communications to
EDITOR CALIFORNIA FARMER,
21 W. Santa Clara Street,
San Jose, California.

THE FRUITGROWER'S HAY.

A Remedy for Great Fluctuations May Be Found in Buying Largely When Hay Is Cheap.

LAST week the hay situation from the growers' standpoint was discussed here, the conclusions pointing to conservative selling and as extensive feeding as possible on the farm as the best procedure under the conditions as they now exist.

To sell hay at less than \$10 per ton is, from the standpoint of profitable farming, poor business practice, referring, of course, to good quality and clean grain hay. Whether alfalfa hay may be produced at a less price or not may still be considered an open question, and it will require some more experience in alfalfa culture to determine that point, as the average production per acre the country over, together with average cost of irrigation and the life of an alfalfa field, and possibly other matters having a bearing upon alfalfa culture, may affect the average cost of production.

The Consumer's Position—Setting the price at \$10 as the turning point between profit and loss in growing hay for sale, it would be fair to consider that price one at which a fruitgrower for instance, who does not raise his own hay, might prudently purchase all that he needs for the year, and if, unfortunately for the farmer, he is obliged to dispose of his crop at a still lower price, the fruitgrower may well consider the advisability of storing a two or three-years' supply.

When good barley or wheat hay is offered at prices below \$10, and down to \$7 per ton, a little calculation will prove the possibility of saving some money by buying, storing at home, insuring, and even figuring interest for a two or three-year period.

On the part of the fruitgrower, it is just as much his duty from a business standpoint to buy a large supply of hay when it is very cheap as it is for the grower of the hay to avoid selling it at a loss if he can possibly do so. And while the fact must be deprecated that the farmer should at any time be compelled to sell his products at a loss, such conditions do arise, and if he must sell, it would seem best that a brother agriculturist should be the gainer, and not the middleman.

There May Be Compensation—If a considerable number of fruitgrowers who use large quantities of hay should take their cue from the foregoing and buy a two or three-years' hay supply when the price runs very low, does it not look reasonable that such a proceeding would steady the fluctuations in the hay market, which have often been too great? It would prevent prices running to \$20 and \$25 per ton, as has been the case during the past two years—a price too high for consumers to pay for any extended length of time.

With a supply on hand for two or three years, the fruitgrower would not be in the market when \$25 hay is offered, and it would be best for the prosperity of the whole state if it never again reached that point.

DUTIES OF THE COUNTY ADVISOR.

He May Help to Solve Any Problem Peculiar to Country Life If He Be a Diplomat.

A COUNTY advisor aside from the supposition that he may possess a lot of information about growing crops and other things, that the average farmer does not know, may be worth all that he costs and more, if like the little piece of yeast in the batch of dough, he may put life into the whole mass of country people and astonish them with the results that they may accomplish if they try.

First of all it might be well to disabuse some of those who know all about farming now of the idea that the advisor will devote his time to lecturing them and force them to do things against their will by his great oratorical powers, for this is not so, besides he will probably be a little fellow and not very strong physically and it will be safe to throw him out, or set the dog on him, if he gets to be a nuisance and tries to interfere with the regular old methods that have always been practiced.

He Will Show You—Talking will evidently not be the advisor's strongest point in influencing the farmer to do certain things that will bring him more profit. Co-operation in experimentation between the advisor and all who are willing to try some method of culture or management that looks feasible will possibly be his largest duty and it may appear that while some of our pet hobbies are not really as profitable as we have believed, others with perhaps a little variation may become more profitable.

It will be a bringing together of the science of agriculture as worked out in our agricultural schools with the aid of the brightest minds, imbued with the principles of plant growth, and the bringing together of the most congenial elements to produce the best results; with the arts of agriculture as practiced by the man on the soil, who whatever may be his standing from the point of scientific knowledge, still has an understanding with mother earth that will prove quite as valuable as the knowledge of his collaborator when with a mutual understanding they proceed to uncover the hidden wealth of nature that either, single-handed, may never see. Petty differences of understanding which may crop out, as very likely they will, between men whose training has been widely different must not be allowed to interfere in the least with the object in view of getting the truth.

How to Get Crops—No farmer in his right mind would object to being shown how to produce larger and better crops at a reduced expense per ton, so that naturally the studying of soils and their management will doubtless be the starting point and the main work of the advisor and his collaborator the farmer for some considerable length of time. Experiments and comparisons will have to be resorted to prove the results that will come if the plowing be deep or shallow, if the plowing is followed by roller, clod-smasher, disk, harrow or cultivator, whether this work be done in field or orchard.

The time for stirring the soil is also an important consideration and here the nature of the soil comes in and makes this problem as many sided as there are varieties of soil.

In the orchard the quality of the soil will have to be considered somewhat in relation to the variety of fruit trees that are growing upon it. In fact the field is as large and varied as the boundaries of the country and the number of farms within them.

Some Other Things—There are many things that go to make up the occupation of a farmer and the farmer's family. The growing of the main crops as cereals, vegetables and fruits are important as a foundation upon which many other operations peculiar to locality and individuality will depend.

Stockraising and dairying, in its many combinations and phases will be a no-ending source of study and experimentation. The arrangement of buildings for horses, cows, sheep, hogs and poultry will come in for consideration and this item alone would make a fine case of headache for an advisor who would attempt to advise every farmer as to the very best and cheapest arrangement that may be

made on his farm and with the means at his command. Then the boys with their rabbits and pigeons will come in for a discussion which will enable them to get a lot more enjoyment and profit out of their enterprises. And if the boys interests are permissible in this scheme of providing an advisor, surely the farmer's wife and the girls with their household problems and kindred interests should not be ignored. The vegetable and flower garden, the shrubbery and ornamental trees surrounding the home grounds are important, perhaps more important to the welfare of a farm home and the success of the farming operations as a whole than will be admitted without deliberation.

The Advisor Not a Gossip—In this scheme of advising the farmer there will be no rule that will prevent a judicious and wideawake advisor if he be something of a diplomat from telling John Jones how Henry Smith over the other side of the county has arranged his hog pens so that he is saving time and feed in taking care of them. He knows that Smith's plan works well for he has studied its operations thoroughly. And if he may be permitted to carry the news from Henry Smith to John Jones will be he barred from telling Mrs. Henry Smith what a convenient and sanitary milk and butter room Mrs. John Jones has and how she does not dislike the care of the dairy products as she formerly did.

It would seem that the possibilities for good that an advisor's duties may develop into are innumerable and that with a better acquaintance with them, and a better understanding between him and the entire countryside will mean a growth in the desirability of country life not attainable by any other method.

The Eureka Walnut—Dr. W. W. Fitzgerald, of Stockton, is convinced that the Eureka walnut, and Prof. S. F. Rogers, of the university farm at Davis, is of the opinion that the Eureka will eventually take a place among walnuts similar to that of the Washington navel orange among oranges.

Both these gentlemen evidently have good reasons for their convictions. However, in five or six years hence, bearing trees in various localities will either confirm or disprove their belief, and in the meantime prospective walnut growers may go right ahead and lay the foundation for a good walnut grove by planting either native California black or hybrid black trees, to be grafted later.

Statues and Monuments—A relic of the earlier ages is the desire to erect monuments to those who have passed on and if in their lifetime they have done some good deed and it has been found out then the monument will be tall and imposing in proportion to the amount of money that may be collected for the purpose. Monuments are supposed to be artistic and educational. This may be so in a measure but, where do people congregate in our parks and public places? Are they gathered about the monuments or are they listening to the music, admiring the flowers and trees or watching the animals? Money spent for monuments might much more wisely have been contributed to some educational or human welfare fund that will be a real benefit to the living.

World's Best Ayrshire—Anchen-brain, Brown Kate IV, has produced in one year 23,033 pounds of milk, equivalent to 917.60 pounds of butter fat or 1,080 pounds of butter, being a 3.99 per cent test. Her milk measured 10,820 quarts and was sold at 5 cents per quart. As the milk only cost 13-4 cents a quart to produce the profit above cost of feed was about \$351. Who wants a better argument in favor of the best milk producers for profit?

The Washington Farmer, successor to the ranch comes to our desk with promises of concentrated efforts for the farmers of Washington, preferring to confine its efforts to the cultivation of a small field and do it well, than to do less efficient work over a large territory. We commend the farmers' declaration of principles and wish it long life and prosperity.

Thinning grapes has attracted attention and will be tried out and experimented on by various growers.

A SURE GOPHER REMEDY.

Chas. C. Navlet's Gopher Remedy May Prove of Great Value to Country People.

GOPHERS are a serious pest to agriculturists everywhere, and by agriculturists is meant all who produce anything from the soil, whether it be cereals, hay, forage and, indirectly, stock, fruit, vegetables, flowers or anything that may be grown upon or in earth.

The common pocket gopher seems to exist all over the United States, where its mischievous work is known and its extermination desired. In California, where we have no cold winters, the gopher may be continuously at work, burrowing and destroying grain and pasturage, plants and the roots of orchard trees.

The Gopher in the Orchard—Fruit-growers have a great fear of gophers, and with good reason, for one gopher may girdle and thereby kill many large orchard trees in a season if his capture is neglected.

In spite of repeated plowings which destroy their holes somewhat, Mr. Gopher is every ready to start a new home almost anywhere if there be something eatable in sight.

Irrigation drowns a great many, particularly where the flooding system is used, but some escape even this and are soon throwing up hills of fresh earth in construction of a new home. Trapping and poisoning are methods more generally followed by fruitgrowers than any other, and are fairly successful if prosecuted vigorously. Pumping smoke or gas into the runways is of little use, for a gopher immediately stops up his runway when alarmed, and possibly always takes that precaution from fear of snakes. At night, the blocked runways are always found in digging out a gopher. For this reason the use of bisulphide of carbon, which is so effectual for squirrels, has little effect upon gophers.

A Tested Remedy—Mr. Charles C. Navlet, of the Chas. C. Navlet Seed company, has had many years' experience fighting gophers in the prosecution of his business, and has at last found a remedy which he claims is very efficient.

This remedy will be published for the benefit of his patrons in the 1915 catalog of the seed company which bears his name, but he has agreed to let the readers of the California Farmer have the benefit of a few months' advance information.

It is easily understood that in Mr. Navlet's business of growing all kinds of plants, seeds, bulbs, etc., some varieties of which are very valuable and a gopher would be a very unwelcome visitor.

For instance, if he should conclude to make his home in a bed of choice bulbs which are really very good eating, although worth dollars apiece, some method would just have to be devised to destroy the gopher without injuring the bulbs.

The Thought and the Remedy—At such a crisis as this Mr. Navlet opened the gophers' hole and poured into it a glassful of gasoline and stopped up the hole. The remedy was effectual whether the gopher was killed or not and has been tried repeatedly with the same result.

It is possible that the fumes from the gasoline does not reach the gopher at once, but when after a time he came to that part of his run to repair any damage that might be done, as gophers always do, the gasoline fumes were still there and suffocated him.

We hope that every reader of the Farmer who reads this and is troubled with gophers in garden, lawn, orchard or any place will try this remedy, and if convenient drop us a line, giving results. Just open the hole where the fresh work is found and pour in a glassful of gasoline and close the hole.

Will Ship Ripe Grapes Only—As soon as all the packers of green fruits in the Fresno district have signed the contract there will be no more green grapes shipped from that section of California. The packers have agreed that no grapes testing less than 17 per cent sugar will be packed, and many have already signed the contract which will cover the 1914 season. This is an altogether proper move on the part of the packers and will certainly go a long way towards maintaining the high standard of California fruits.



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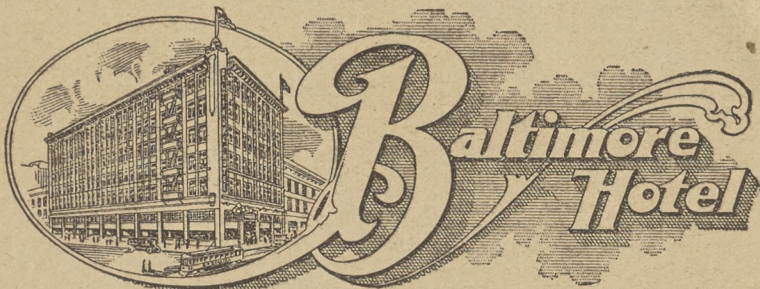
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ORCHARD

PRESERVED FIGS.

A Neglected Industry That Would Greatly Augment the Growing of Figs.

By George C. Roeding.

THE preserving of figs has never been attempted on any scale in California, and this is really very surprising considering the enormous demand there is for figs in this shape, and that California draws all of her supply, practically, from Texas and Louisiana.

A Texas Enterprise—One firm in Texas puts up a large quantity of these figs, which are known there as the Magnolia, and which are in reality the Brown Turkey, a rather inferior fig at the best. The tree is a very poor and unsatisfactory grower; nevertheless when preserved the figs are very sweet and delicious, the heavy syrup being largely responsible for this flavor. The drying of the figs in Texas is out of the question due to the rainfall during the summer months, therefore this is the only method for disposing of their crop. It is rather amusing to note that these figs are advertised as skinless. It is quite evident that this point has been dwelt on particularly, for when making a purchase of these preserved figs in Los Angeles recently from one of the leading grocers our attention was directed to the fact that it was the only skinless fig on the market.

Skinless Fruits—Wake up, benighted California! It is high time that you were producing shellless walnuts, almonds, and skinless oranges, etc., to keep abreast of the progressive packers of Texas.

Considering that this inferior fig can be manufactured into a commercial product by using proper materials to create a desirable flavor, what are the opportunities in this direction for the Calimyrna, White Adriatic, White Endlich, all of which possess merits making them pre-eminently better adapted to this, at the best, very inferior Magnolia fig, which is only skinless in the imagination of the manufacturer.

The Poor Man's Fruit—If there ever was a fruit which could be classed as a poor man's fruit in this temperate zone, the fig is entitled to this distinction. Children can gather the figs to better advantage than grown-ups. The figs are never picked off the trees when dried but, as already mentioned, drop from the tree of their own accord, or are shaken off.

Work for Many People—Whole families engage in the gathering of the crop, and it is no uncommon occurrence to have 15 families with from three to eight in the family, on the Roeding place gathering figs in the height of the season, which usually commences about August 15th, and continues until October 1st. They all work, even the children 4 years old; father and mother work, too. They receive for the gathering of the figs from ten to 12 1-2 cents for a 40-pound box, and it is a common occurrence for a man and wife and three children, ranging from 10 to 15 years of age, to earn \$10 per day. For canning purposes it costs fully one cent per pound to gather figs, and they sell at four to six cents per pound.

The fact that the few figs, for preserving purposes, that have occasionally been sold in California to the canners have always been the small ones, which are inferior for drying purposes, makes them very profitable to the grower. Figs which are canned must be quite firm and fully matured.

COVER CROPS FOR WARMTH AND MOISTURE.

Special thermometers fixed in the ground a few inches deep show that an orchard cover crop keeps the soil several degrees warmer than a bare soil close by, in an experiment now going on in Indiana Agricultural college. It is also being found that there is more moisture under the crop than there is where no crop has grown. Rye, millet, wheat, rape, crimson clover, soy beans, cowpeas, and vetch have been planted over different orchard acres to see what gives best results for the cost of planting, which, if any, is most practical. So far vetch has given excellent results but the seed is pretty expensive. Cowpeas will not grow unless they are put in early, in an average year. Rape grows well after frost, and seems to be a good practicable crop. Millet, because it is inexpensive to put in, is considered one of the most practicable. Chickens, calves and pigs may be pastured safely in the orchard, but other stock are liable to injure the trees.—American Cultivator.

One of the chief objects of a cover crop in an orchard is to assist in controlling the moisture content of the soil during late summer and early fall.

THE BUMPER APPLE CROP.

What to Do With the Great Crops of Apples Which We Expect in the Near Future.

By C. J. Lyson, President State Horticultural Association of Pennsylvania.

HARDLY a week goes by but we read or hear of some one who tells us that too many apple trees are being planted, and that very soon apples will sell only at a loss, and the whole business will go to the dogs.

Of course we put up a good bluff, and call these folks "calamity howlers" and "pessimists," but down in our hearts we know there is a lot of truth in what they say. Trees by the million have been and are being planted. Hundreds of thousands are coming to bearing age each year, and this number will increase tremendously in the next five years.

Each season for several years past nature has so planned that calamity of some kind, either frost, severe storm or drouth, has visited several of the important apple-growing sections, and the crop has been cut down. This condition may not continue; even the coming season may see a "bumper crop" throughout the whole country, then "what will become of the apples?"

It sounds bad, but it is not hopeless. Here is the solution. Only a very small part of the population of our country is eating apples. There are actually millions in our cities and towns who do not have the "apple habit"; who do not know about apples. It is our duty, and should be our business, to let them know. Some experiments in advertising have already proven that a little publicity can greatly increase apple consumption. Proper advertising will increase the consumption of anything, and if the article has merit and the advertising is judicious, it will pay, and pay handsomely.

What do you suppose would become of the tremendous output of the "57 varieties" if the H. J. Heinz company was to cancel all its advertising and allow the world to choose its own "appetizers"?

It seems to me that it would be very good business for the apple-growers of the country to get behind some well organized plan for advertising apples, and push it with all the might that is in them. I can see no other hope for the "bumper crop."—The Apple World.

THINNING GRAPES.

Thinning Grapes Greatly Improves Their Shipping Qualities.

MANY otherwise suitable grapes do not ship well on account of the excessive compactness of the bunch. A compact bunch is difficult to pack without injury and cannot be freed from imperfect berries without spoiling good berries.

This excessive compactness can be prevented before the berries are one-third grown. Thinning, moreover, increases the size of the berries, hastens ripening, promotes coloring and lessens some forms of sunburn. The practice is regularly followed with success by many growers of Tokay, Black Morocco and other grapes, where bunches are usually too compact. While apparently costly, the expense is often more than counterbalanced by the saving in trimming of the ripe grapes. The increase of quality thus becomes a net gain.

The bunches are thinned at any time after the berries have set and before they have reached one-third their mature size.

No bunches are removed, but only a certain proportion of the berries of each bunch. The number of berries to be removed will depend upon how compact the unthinned bunches usually become. In general, it will vary from one-third to one-half of the total number. The thinning is effected by cutting out several of the side branchlets of the bunch. The branchlets should be removed principally from the part of the bunch which has most tendency to compactness, usually the upper part. The work can be done very rapidly, as no great care is necessary in preserving the shape of the bunch. However irregular or one-sided the bunch looks immediately after thinning, it will round out and become regular before ripening.

A long, narrow-bladed knife or a pair of grape-trimming scissors can be used conveniently for this work.—Fresno Republican.

THE HERBERT RASPBERRY.

Growing Raspberries a Profitable Enterprise—Best Varieties and Methods of Culture.

By John E. Taylor.

THE best kind of soil is deep, loamy, cool, and moist. The soil should not be over-supplied with moisture, for this produces an over-growth of the canes with a much lesser crop the next year, but one which is sufficiently retentive of the moisture to supply the needs of the plants throughout the season. The better preparation that is given the land, the better the results will be. This preparation of the soil should begin by good, deep plowing, followed by thorough cultivation, so as to work the soil into a finely pulverized condition. Much better results are to be had if the land is occupied by a



THE HERBERT RASPBERRY.

hoed crop for one or two years before planting. Beans, peas and potatoes make a good preparatory crop.

Location for Best Results—The best results are obtained if the raspberry patch is on a slope with the northern exposure. This does away with the excessive heat from the direct rays of the sun at ripening time, and in this cooler location the berries are found to be much larger and finer.

If land is fertile enough to produce a good crop of corn or potatoes, it is fertile enough for raspberries. The grower however, should carefully experiment upon his own soil, and determine for himself whether a certain kind of fertilizer, small amounts of well-rotted stable manure can be added for nitrogen, and a commercial fertilizer to supply the potash and phosphate acid. Hardwood ashes are also excellent as a source of potash. It is better to let the physical condition of the soil be considered first and then the chemical later.

The Best Varieties—Two of the best varieties of raspberries are the Cuthbert and Herbert although the Loudon and Turner are especially hardy. The Herberts are found particularly to be vigorous, hardy and productive. The plants should be put in rows six feet apart, and the plants three feet apart in the row. The plants sucker freely and soon run together forming a solid row. Some varieties of raspberries are not fully self-fertile and so have to be interplanted with other varieties. The Cuthbert is apparently fully self-fertile, and has a long blossoming period, so that it is an excellent kind to plant with other varieties.

Method of Growth—The raspberry canes grow from the same root year after year, the canes which grew one year bearing fruit the next and then dying give place to new ones. The roots grow on from year and send up an abundance of new canes which may be dug up and transplanted to a new place. Another way in which new beds are started is by digging the roots in the fall or early spring and cutting them into pieces two or three inches long. The roots which should best be from one-fourth to three-eighths of an inch in diameter are stored in cool, moist sand until the ground is ready for planting in the spring. Then these pieces are planted horizontally an inch or two deep in nursery rows. These cuttings will send shoots upward and roots downward, and by fall two or three feet high will be obtained. These are the plants that are transplanted to the new patch.

The space between the rows should

be plowed at least once each year, and then clean cultivation practiced until the fruit is nearly ripe. This keeps the ground as well as plants in good condition. After picking cultivation may be continued for a time.

New Plantings—In a new patch the first season after planting the canes should not be allowed to bear any fruit. The second season a part crop may be expected and the third season the plants should come into full bearing. In an old patch, however, the only pruning necessary is to cut out the old and superfluous canes. The old canes should be cut out immediately after bearing, and the new ones thinned out so as to let in plenty of air and sunlight. If well cared for the berries should be plentiful for several years in one place, but it is better if the patch is moved after four or five full crops have been obtained.

Harvesting and Marketing—In the harvesting and marketing of the berries they should be picked every other day, for the longer they remain on the bushes after ripening the softer and poorer in quality they become. It is best to pick them when thoroughly dry and place them in a cool, well ventilated place until taken to market or shipped. The fruit is naturally so soft that it is best to put not more than a pint together. Small, wooden fruit baskets are best. It has often been proved that when shipped in bushel crates holding sixty of these pint baskets the fruit reaches market in much better condition than when shipped in the usual quart baskets.

When one considers that 3,000 bushels are realized from an acre and that they sell from fifteen to twenty cents per quart it is to see that raspberries are a paying crop. The cost of cultivation, pruning, etc., should not exceed \$50 per acre; picking and marketing will range from two to four cents per quart. The net profit then to the grower is an immense one.

—Green's Fruitgrower.

RAISING BLACKCAP RASPBERRIES.

Explicit Directions for Planting, Cultivation and Pruning.

THE soil for the berries should be fairly fertile, free from sod or roots, such as quack or blue-root grass and all foul weeds. Plow rather deep, and harrow until the earth is perfectly fine and pliable. Too much manure has been known to bring on "the yellows" a disease fatal to berry plants. And let it be said right here, if any yellow plants are ever discovered, they should be pulled up at once and promptly burned.

Mark the ground with a corn marker three feet each way. Set every row one way, and every other one the other way—making the rows three feet by six feet.

Plants should be set as soon in the spring as they are large enough—say from four to six inches high. Put them



BLACKCAP RASPBERRIES.

in deep; six inches is a good depth. They must have a good, firm rooting to help the heavy plants withstand the hard winds the following years.

Cultivate and hoe often enough to keep the field free from weeds. The more often the soil is stirred, the greater will be the yield. In a dry season, frequent cultivation draws the moisture to the surface, and helps to tide the plants over until the rain comes. Sod will soon "run out" berry brushes. Keep the land level and clean.

If no young plants are wanted for the next year, this finishes the first season. If, however, new sets are desired, either for home use or for sale, this is the way to get them. By the way, plants in the spring sell all the way from \$3. to \$10 a thousand, according to supply and demand.

Early in September, bury the ends in the ground about two inches. A trowel makes a good tool for this purpose.

In the spring, sever the young set, where it is four or six inches high, from the mother plant. Trim all the

THE GARDEN

other ends on the old plant as far back as they are dead.

Cultivate frequently as long as it can be done without injuring the ripening fruit, perhaps until two or three weeks before picking time.

During the time that the crop is being gathered, the canes for next year's harvest will be getting tall. The patch will need to be gone over several times during July and August and the ends of the canes snipped off to about three feet high, in order that new shoots may come out to make larger, healthier bushes.

After the crop is harvested, take out the old bushes with a long-handled, short-bladed knife, made for the purpose, being careful not to harm the young canes. However, if there are too many young canes in a hill, reduce the number to four or five. If well cared for, a patch will last six years.

CABBAGE WORMS AND APHIS.

CABBAGE worms and cabbage aphis, or lice, are found in more or less destructive numbers wherever cabbage and other cruciferous crops, such as turnips, rutabagas, cauliflower, etc., are grown. Some seasons they are much more destructive to these crops than others, owing to various causes, such as the weather conditions or the presence or absence of the various parasites and predaceous enemies, which sometimes keep them reduced to a minimum.

The green caterpillars, or cabbage worms, found on cabbage and allied plants, are too well known to need any description. They develop into the common white, gray or orange butterflies with small dark spots on their wings. They are seen frequently during the summer flying about the gar-

den and clover and alfalfa fields. The butterflies lay the eggs on the cabbage, which hatch into the caterpillars.

The state experiment station at Pullman, Wash., advises that the best method of controlling these worms is to spray the plants before they are half grown with arsenate of lead and soap, prepared as follows: Arsenate of lead (paste), 3 ounces; soap, one-half bar; water, 4 gallons. This spray should be applied whenever the worms become abundant enough to justify it. Usually an application about the first of July and another two or three weeks later will be sufficient for early cabbage. Late cabbage may require an additional application later.

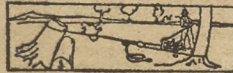
The cabbage aphids are also very well known to every gardener. They live over winter in the egg stage or as mature aphids on the plants left in the garden during the winter. A great many generations are produced during the summer and fall, so that by late summer those plants only slightly infested in the spring may be seriously injured by these pests unless destroyed by their parasites or predaceous enemies. They are often kept in control by the ladybird beetles and the larva of the Syrphus flies.

The best method for controlling the plant lice is to spray the plants with tobacco and soap mixture prepared as follows: Blackleaf-40, 2 tablespoonfuls; soap, one-half bar; water, 4 gallons. The soap is necessary in order to make the spray spread evenly and penetrate the mealy covering of the lice.

Inasmuch as both worms and aphids are nearly always present at the same time, it is often desirable to spray for both, and this can be done with a combined spray prepared as follows: Blackleaf-40, 2 tablespoonfuls; soap, one-half bar; arsenate of lead, 4 ounces; water, 4 gallons.

M. A. YOTHERS,
Assistant Entomologist.

Washington State Experiment Station.



"K" (HAND STUMP PULLER)

Write for special advertising offer. Most wonderful landclearer made. Finest Krupp steel frame, hardened steel parts; weight only 171 lbs. Woman with "K" can outpull heaviest team. Year guarantee. Our literature shows "K" actually removing world's biggest fir and cedar stumps.

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WALTER J. FITZPATRICK,

SEATTLE, WASH.



Not a mixture - but a straight run refinery product

RED CROWN

The best gasoline the Standard Oil Company can make

CITRUS FRUITS

REPORT FROM SANTA BARBARA.

An Interesting Report of the Splendid Crop Prospects and Kindred Information.

By C. W. Beers, Commissioner.

A RECENT inspection of the county shows a remarkable development during the past 12 months in all rural sections. The alfalfa industry has caused a development of water resources heretofore left hidden, and now that the water is developed, there comes to the owner avenues for better methods of husbandry, more attractive and more remunerative. New branches of agricultural activity are being opened, and the possibilities of systematic fruitgrowing appeal to landowners, and these more highly specialized activities are being developed, greatly to the advantage of the county at large.

Alfalfa Area Growing.

Especially satisfactory is the extending of the alfalfa planting, as this means the conservation of the fertile soil conditions that have been the glory of the county, and it also means the reclamation of areas that have been considered worked out. On one 200-acre piece that had been abandoned for some years because of having been worked out, at this writing is to be found a splendid stand of alfalfa, only three months from the seeding, with an average height of from 18 to 22 inches. The first cutting is now in progress, and the returns are very gratifying. Acres of salt marsh lands have been reclaimed during the year by growing a crop of corn for silage, and the improvement this season over that of a year ago is very marked. New areas are now planted, and other sections will yet be worked during this season, preparing a larger area for next season's usefulness. The first crop more than pays its way, besides rendering the soil fitted for a profitable next season's work.

Perfect Deciduous Fruits.

The extension of deciduous fruit planting is very promising as in this county are sections naturally adapted to the production of perfect peach and apricot crops. With the co-operation of fruit men, the dried fruit industry is coming to a stable basis which guarantees splendid returns from the product, and with the soil and climatic conditions that produce a perfect fruit, we may expect the dried fruit industry to assume splendid proportions in the near future. The most perfect fruit the writer ever saw is now being gathered and cut in the Santa Rita and Santa Maria sections of the county, where there are hundreds of acres that can be relied upon for a regular crop of pit fruits that at this time are producing a small pasturage return.

The grain now being threshed is of excellent quality and is returning a good tonnage. Beans promise well, the fields showing a good growth and strong, vigorous vines. Potatoes and onions will make banner crops, some of them new being put on the market. The shippers are making advanced arrangements for shipping facilities, counting on a large production.

Citrus Culture Profitable.

The citrus conditions continue very favorable. Trees in splendid thrift; pests under commercial control; market strong with upward trend, and keeping conditions of a high order. Spraying and fumigation give the grower splendid returns for his efforts.

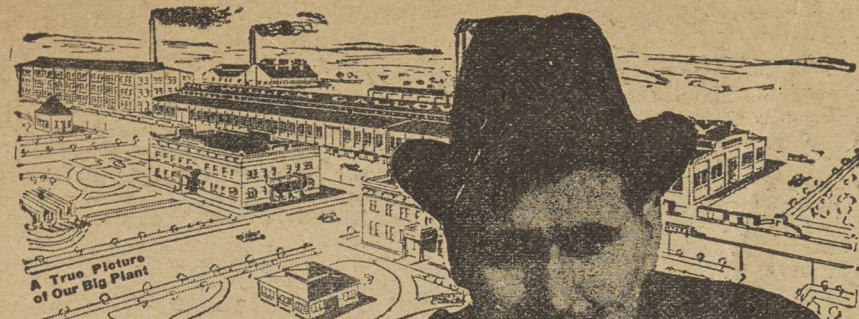
The walnut situation is not much changed since the May forecast. Aphids have not developed to an economic interest, and the blight is working in some sections quite noticeably, while in other parts of the county there seems to be very little of the bacterium active. There are evidences that persistent spraying will practically master the blight situation, but to secure this result there must be a series of several years continued application of the fungicide, and then the process must be continued every second year to maintain commercial control. We believe we have evidence to justify these conclusions in the work that has been carried on for the past five or six years.

CROP ESTIMATE OF SAN BERNARDINO COUNTY FOR JUNE.

Apples	55 per cent
Apricots	75 per cent
Cherries	80 per cent
Grapes	80 per cent
Grapefruit	95 per cent
Lemons	85 per cent
Oranges	80 per cent
Olives	65 per cent
Peaches	80 per cent
Pears	65 per cent
Plums	100 per cent
Walnuts	80 per cent

S. A. PEASE.

County Horticultural Commissioner.



You Don't Need Cash To Buy From Me

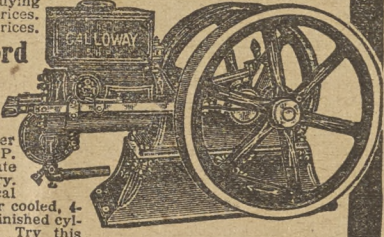
If ready cash is short and you don't wish to borrow, you can still buy from Galloway. I'll trust you. Buy now and pay later. Mine is the first house to offer you farm equipment direct from factory at low prices, cash or credit. I've always made my prices low. Now I make my terms so easy any body can buy a gasoline engine, a manure spreader, cream separator—

5 New Selling Plans

Take any one you want. Save money no matter which you take. Here are my five plans: 1—Cash with order. 2—Bank deposit until you've examined the goods. 3—Part cash, part notes. 4—All notes. 5—Small sum down, balance in small monthly payments. Don't wait until your harvest money comes in. Don't go buying on credit here and there at fancy prices. Get it from Galloway—factory prices.

Every Farmer Can Now Afford an Engine; \$10 Down Gets It

A good gasoline engine is necessary on the modern farm. If price or lack of ready money has kept you back you needn't wait any longer. The Galloway costs less than other engines sold at wholesale in carload lots, 5 H.P. \$89.50; others, 1-34 to 15 H.P., at proportionate prices. Made in immense quantities with labor-saving machinery. That's why I can make these prices. The Galloway is a practical engine that does more work at less cost than any other. Water cooled, 4-cycle, battery jump spark ignition, hit and miss governor, well finished cylinders, chilled steel crankshaft, feather balanced fly wheels. Try this engine 30 days. Compare it with others regardless of price. Judge for yourself.



\$4.80 Down, Balance Monthly, Buys a Galloway No. 7 Cream Separator

It's positively the sensation of the cream separator field. It has them all sitting up and taking notice. Travel 20.00 miles, look over every factory in the United States and all the foreign countries, you won't find its superior at any price. Made in our own great factories in tremendous quantities from finest materials on best automatic machinery by skilled workmen, all parts alike, interchangeable and standard, and sold to you direct from factory for less money than middlemen can buy machines not as good in carload lots for cash. New Galloway Sanitary is the most scientific, cleanest skimming and most beautiful design of any cream separator made today and I have seen them all.

Write for my Free Catalog. I'll send you catalog by return mail. In cash and credit proposition. Now show you how I really divide the melon with my customers.

Wm. Galloway, President
The William Galloway Company
1547 Galloway Station Waterloo, Iowa



THE FARMER AND THE FARM ADVISERS.

Farmers Generally May Be Greatly Benefited by Taking Counsel With An Adviser.

By Percy L. Edwards.

HERE are two proposed aids to farmers and farm interests, both vitally effective, now about to be tried out in this country. Rural credit banks and the agricultural adviser are the topmost propositions of interest to farmers today. The second of these is the subject of this paper.

Now everybody gives advice to the farmer. Partly because he needs it and partly because advice is the easiest thing parted with. To the credit of the farmer, although not always to his profit, he listens to all sorts of advice and struggles along cheerfully to reap where he has sown, according to advice. But, seriously now, the farmers of this country are in need of a helping hand which shall bring about the same condition in regard to agriculture that is sought for in the modern efficiency methods of mercantile business. The farmer has the same problem on his hands that the ordinary business man has. It is the problem of scoring success where the majority of chances are against it. It has become a byword that only about 10 per cent of business men are successful. That farmers do better than this, is true. But why should not farmers be successful in much larger proportion? On account of the vast importance of agriculture to the people of this country, the government has long maintained the greatest watchfulness and protection of the industry. In spite of this the productivity of the farms has not kept pace with the natural development of the country. The government now proposes to send out into the farm communities men trained in soil analysis and cultural operations to give advice.

Soil Fertility of First Importance.—The necessities are found in the fact that the fertility of the soil is being depleted generally. In some of the older settled portions of this country, farms have been abandoned because they have become unprofitable and in all parts the average crop production is declining. And this in the face of the

work being done by the agricultural colleges, experiment stations, the agricultural press and farmers' institutes. It is figured by students of public conditions that the time is not far distant when the present increase in population and the relative decrease in farm production will put a stop to agricultural exports and lead to importing for the use of our people where we now export. The seriousness of the situation and its consequences upon the welfare of the people of this country, is recognized by this government and therefore means are being devised to check it. It appears necessary to the government officials that other means than those above enumerated for instructing farmers in the best means to be employed for successful farming, should now be applied. It is believed possible to better accomplish this by sending men best qualified to give advice out into the farm districts to co-operate personally with the farmers. This is the proposed farm adviser plan.

What Has Been Done for Sugar Beet-growers.—In this connection the writer wishes to call attention to what has been accomplished by the sugar beet interests along this very line. As a part of the agreement with growers, the beet sugar companies sent into the fields men trained in the cultural part of the industry. The selection and preparation of the soil; planting of seed; cultivation; thinning and weeding the young beets, were operations directed by an agriculturist trained for such work. The fields of beets were under the watchful care of this man until the harvest time. This the sugar companies did at their own expense. The beet sugar companies have always maintained this service which is at the command of the growers at all times. Under the guidance and instruction of this man the growers of sugar beets have been generally successful. In the state of California the beet sugar industry, under the careful watching and advice of trained agriculturists, has become one of the most profitable industries and has grown from a single plant, 25 years ago, to 12 plants now in operation with a combined capacity of over 12,000 tons of beets daily.

In his capacity as adviser to sugar beetgrowers, the writer has learned that while farmers as a class are conservative and slow to change their methods,

they listen to advice and seem willing to try out other methods. It is true that where this change of ideas involves any large increase of expense, farmers as a rule are slow to adopt them. But in the case of raising sugar beets they have come to regard the greater outlay as so much invested in sure returns. From raising grain at an expense of say \$8 to \$12 per acre, to raising a crop of sugar beets at an expense say of from \$35 to \$40 per acre, was a radical change for farmers. At first it seemed like speculation. The more conservative would have nothing to do with it. It took time to educate growers in details of the work. Progress was slow and sometimes discouraging. A few farmers produced paying crops. Their returns were so good that they became enthusiastic. This feeling spread among others and at last the idea took root. It will be this way with this farm adviser plan of the government.

Adviser Not a Meddler.—The difficulties and limitations under which the farm adviser will labor should be understood. His position is a delicate one. He can not interfere with farmers who are satisfied to let him alone. He only goes to such as ask for his advice. He may see farm operations going on that seem to him to insure only disastrous results. He cannot interfere with his advice. He must wait for an invitation. And here it may be said the adviser will find that the great body of farmers do not seem to realize how serious the condition is. Farmers generally are not contented with their returns. But it looks as if they did not consider such a condition as a natural result from faulty operations, or inefficient methods. The stock argument is unreasonable weather and other unfavorable conditions. When the average farmer turns from these stock excuses and inquires within for reasons leading to his failure he will be taking the first lesson in the course. He cannot change weather conditions, but he can change his methods, perhaps, to suit weather conditions.

Scope of Work Unlimited.—The scope of the farm adviser's work should be great enough to cover advice on the selection of land for certain crops. Advice on natural conditions and how to conserve all advantages. It is far better that no crop of a certain character shall be raised for that year when conditions are unfavorable, than to go to an expense in time and labor to attempt something that has small chance of success. It often is very desirable to plant seed for a crop that is needed by the farmer when he has no land in suitable condition to raise such a crop. What will he do? There are too many who would plant the seed and take the chance of getting any crop. Why not figure to cut out that particular crop for this year and go into the market for it. Use the land for some other purpose where there is better assurance of a crop that will pay. The writer is a firm believer in the application of common sense to all problems. A farmer whose methods of operation combine thoroughness and good sense, cannot go far astray. To him the farm adviser will be a welcome counselor. And the two are going to get along well together.

The rich soils of California have been cropped to the limit without returning to the soil what rightfully belongs to it. The big stock ranches have yielded their millions to stockmen and grain producers, without ever a thought to keeping up their productive strength by means of fertilizers. These big ranches are now in the hands of the small farmer who must keep up productivity in the soil to get a living out of it. One of the plainest requirements of the farm is fertilization and yet, this principle of agriculture is the most abused of all. That soils need feeding as stock need feeding, seems a most difficult proposition for many to understand. The farm adviser will find a large class for instruction in this matter of feeding soils to best advantage. With a knowledge of analysis of soils at his command, the farm adviser should prove of great advantage to farmers of all classes in a very wide range of territory. Indeed, if his instruction and help were to be confined to this subject entirely, his existence might be fully warranted. Farmers are first to be fully informed of the importance of keeping up the balance of productivity of their farms, just as the merchant learns the importance of keeping his stock up to the attractive point necessary to enable him to carry on his business. The farm adviser is to teach efficiency. In this work his duties will cover farm operations from the selection of soils to the care and preservation of farm tools.

Teacher (severely).—What will your father say to your low average? Youngster (with hesitation)—when dad sees I'm down to zero, he'll "warm me up," I guess.—Judge.

THE DAIRY

BEWARE OF UNCLEAN MILK!

During Warm Weather Milk Is Easily Contaminated After Delivery to the Home.

WHEN milk is delivered it should be put into the refrigerator at once. A very brief exposure to summer heat makes it unfit for use. If it is impossible to have the bottles put immediately into the refrigerator, provide on the porch a box, containing a lump of ice. In planning a house, arrange to have the refrigerator set in the wall with an opening on the outside. It is always possible to provide locks for these boxes or refrigerator doors, and supply the milkman with a key. The interior of the food compartment should be wiped every day with a clean cloth, and thoroughly scalded as often as once a week. Under no circumstances should the drainpipe of an icebox be connected with a sewer.

Care in Opening a Bottle of Milk.

Before removing the cap from a bottle of milk, the cap and the neck of the bottle should be washed and carefully wiped with a clean cloth. The cap should not be pushed down into the milk. It may be easily removed with a sharp-pointed instrument without injuring the contents. The bottle when once open should be kept covered and the milk should be kept in the original bottle until it is used up. The original cap should not be replaced, but instead an inverted glass may be put over the top of the bottle. The bottle, when not in use, should, of course, always be left in the refrigerator, and any milk that has been poured from it into another vessel should not be poured back. Onions and other foods having a strong odor, especially during the hot weather, very easily impart their distinctive smell to milk that is left uncovered. This is an additional reason for always keeping milk in a covered receptacle.

Keep Milk Bottles Out of Sickroom.

Milk bottles should never be taken into a sickroom for as they are usually returned to the milkman they may thus carry infectious diseases into other homes. Every milk bottle left at a house, where there is an infectious sickness, should be boiled before being returned. The best thing to do in such circumstances is to provide one's own milk bottles or covered dishes, into which the milkman may pour the milk from his bottles. The duty of each individual to his neighbor in this connection is most important. The board of health may be called to disinfect milk bottles properly after they have been in a home, where there is sickness.

In any case, bottles should be given reasonable care before they are returned to their owner. The practice of pouring vinegar or kerosene or other liquids into them temporarily when not in use should by all means be discouraged. The containers should be washed in cold water first and finally in warm water before they are returned to the farmer supplying the milk.

These little details of cleanliness are matters which cannot be regulated by the federal or the state governments. Rules and regulations that require pure milk to be delivered to the home may be rendered valueless by careless individuals in the home. The best efforts of the milkman or farmer to deliver first-class milk will amount to nothing unless individual housewives will co-operate for the good of the community.

AN EFFICIENT SKIMMER.

The Golden Rod Separator is made for one specific purpose—to skim milk. This is accomplished by what is known as centrifugal force. Did you ever drive fast over a muddy road and get splattered with mud that flew from the wheels? The flying mud is the result of centrifugal force.

When the milk enters the swiftly turning bowl of the Golden Rod, centrifugal force throws the heavier particles (skim milk) to the outside of the bowl, while the lighter portions (the fat globules or cream) are forced towards the center. Openings on the outer edge of the bowl carry off the skim milk and an opening near the center carries off the cream. The cream is discharged through the lower spout and the skim milk through the upper spout in different receptacles and thus carried away from the machine. This is but a brief description of the simplified action of the Golden Rod Separator.

C. W. Coburn & Co., 320 Market street, will gladly furnish further information and literature to anyone applying for same.

SOUR SKIM MILK FOR CALVES.

This Information Tallies With the Experience of a Practical California Farmer.

THAT in summertime calves do as well on sour skim milk as they do on sweet will be interesting news to many farmers who have hitherto been kept from raising calves by the expense of keeping the milk sweet in hot weather. This expense experiments carried out by the department indicate to be quite unnecessary. The calves will make as rapid gains on sour skim milk. In winter, it is true, this is not quite so satisfactory. It chills the calves and some of them drink it with great reluctance. Very young calves have even been known to refuse it altogether. On the other hand, of course, it is much easier to keep the milk sweet in winter.

In calling the attention of farmers to these facts, however, the department at the same time emphasizes an important precaution. Unless the milk is produced and kept under clean conditions, it may become contaminated with disease-producing bacteria. Farmers should therefore allow the milk to sour quickly and then feed it without delay.

In the course of these experiments sour skim milk was fed to 22 calves, Holsteins, Jerseys and Guernseys, at different seasons of the year. In no case did it cause digestive disturbances even when the change from sweet to sour milk was made abruptly when the calves were only a few days old. Moreover no evil results followed the alternate use of sweet and sour. It seems, therefore, that the common idea that sour milk leads to scours is quite unfounded.

The calves, it was found, did not like the sour milk as well as the sweet but in the majority of cases soon became accustomed to it. The aversion, however, increased when the milk was fed them at a low temperature.

ENSILING ALFALFA.

Some Valuable Pointers for Dairymen Regarding Alfalfa Silage.

Fred A. Hutton in Hoard's Dairyman.

WE HAVE on our farm near Dixon, Cal., the first concrete silo constructed in the Sacramento valley. It is 12 feet in diameter, 30 feet high and holds approximately 70 tons. For 11 years we have filled this silo with alfalfa twice a year, spring and fall. During that period we have never lost a single pound of silage. We follow the rule of cutting the crop just a little younger than when cutting it for hay. It is mowed and hauled to the feed chopper immediately, preserving all the freshness possible. Many a load is thus stored in the silo within half an hour from the time it is mowed, and for excellence and succulence it cannot be beaten. Damp and cloudy weather frequently prevails while we are filling our silo, and the alfalfa is heavily laden with moisture. On these occasions we put up our best silage, a feed most relished by our cows. If these natural conditions do not prevail, we make a practice of running a small stream of water from a hose into the blower when filling the silo. In a few days after the silo is filled and fermentation is in process, the moisture may be seen oozing out around the doors and even through many pores in the walls of the silo, the liquid assembling new brew. Our opinion is that a little moisture added to that in the alfalfa itself adds to its succulence and assists in packing it into the silo, the latter an essential which should not be overlooked. During the filling process the injunction to keep the silage built up high and well tramped around the sides of the silo should be kept in mind. There will be no spoiled or moldy silage if that practice is faithfully followed, and the silo is up to the requirements as such.

We feed but little hay in summer, finding it more convenient to cut the alfalfa and feed it fresh from the field. The ground by this practice is at once cleared of the crop and ready for irrigation. By this method we are able to harvest seven and eight crops in a season, whereas it is possible to get not more than six crops where we allow our alfalfa to mature for hay. Our acreage is entirely taken up by alfalfa, and we have no land on which to grow corn, this furnishing the reason why our experience has been entirely with the former feed.

A dark, damp cave of no ventilation is the poorest place one can keep milk and butter because milk absorbs odors—particularly bad ones—more quickly than anything else. However, if the milk can be delivered to the dairy house free from dirt it is an easy matter then to keep it clean, provided one uses plenty of elbow grease, soap and water and keeps the ventilators open.



A BIG ARMY OF UNITED STATES CREAM SEPARATOR USERS

is always ready to march to the front and back our claims with the Proof of Personal Experience.

U. S. "Boosters" are a volunteer and not a drafted army.

Basin, Idaho, Feb. 7, 1913.
I have been using one of your No. 17 U. S. Separators for 10 months. I have had some experience with other machines but for easy running, easy washing, close skimming, the U. S. beats them all.

FRANCIS MCINTOSH.

The U. S. has BIG FEATURES

that no other cream separator has. They bring to dairymen the greatest advantages in recent years, and crown the United States the King of all. Send for Catalogue.

VERMONT FARM MACHINE CO.

474 Glisan Street,

PORTLAND, ORE.

YOU CAN BUY A \$90.00

CREAMSEPARATOR AT COST

We are closing out the line and will sell five new machines at a price that will surprise you. 450 lbs. per hour.

Write

C. W. COBURN & CO.

320 Market St.

San Francisco



WHAT MAKES MILK AND BUTTER YELLOW.

The Kind of Feed More Important Than the Kind of Breed, Experiments Show.

THAT the rich yellow color demanded by the public in dairy products is primarily due to the character of the cow's feed is demonstrated by recent experiments carried on by the U. S. department of agriculture in co-operation with the Missouri state experiment station. For some years dairy experts have been studying this question. Their conclusion is that, although to some extent a breed characteristic, the intensity of this yellow color may, within certain limits, be increased or diminished at will by changing the animal's rations.

Chemical tests show that the yellow pigment in milk consists of several well-known pigments found in green plants. Of these the principal one is carotin, so-called because it constitutes a large part of the coloring matter of carrots. The other yellow pigments in the milk are known as xanthophylls. These are found in a number of plants including grass but are especially abundant in yellow autumn leaves.

These pigments pass directly from the feed into the milk. This explains the well-known fact that fresh green grass and carrots increase the yellowness of butter, the only standard by which the average person judges its richness. On the other hand, a large proportion of these pigments is deposited in the body fat and elsewhere in the cow. When the ration is changed to one containing fewer carotin and xanthophyll constituents, this hoarded store is gradually drawn upon and in consequence the yellowness of the milk does not diminish so rapidly as it otherwise would. This yellowness increases, however, the instant the necessary plant pigments are restored to the ration.

Green grass is probably richer in carotin than any other dairy feed. Cows fed on it will therefore produce the highest colored butter. Green corn, in which xanthophylls constitute the chief pigment, will also produce a highly-colored product. On the other hand a ration of bleached clover hay and yellow corn is practically devoid of yellow pigments and the milk from cows fed upon it will gradually lose its color. It is, of course, indisputably true that the breed does influence the color of the milk fat; but vary the ration and there will be a corresponding variation in the color of the milk fat in each breed.

In cows of the Jersey and Guernsey breeds the body fat is frequently of such a deep yellow color that some butchers and consumers look with disfavor upon beef from these breeds. For this prejudice there is absolutely no justification. The yellowness of the fat springs from the same causes as the yellowness of the milk fat and there is no reason for objecting in one case to the very thing that is prized in the other.

A good way to market butter when

Ask Your Dealer for ELDORADO

COCOANUT OIL CAKE

Milk Cows give more milk.
Chickens lay more eggs.
Young Pigs and Hogs produce more pork.
Cheapest food in the market today.

WRITE FOR LITERATURE containing information on rations, comparative food values, etc.

ELDORADO OIL WORKS

149 California St., San Francisco.

DAIRY LAND.

300 acres—Dairy and stock or citrus. Fine buildings. 100 acres bottoms, irrigated, \$20 acre.

300 acres—Bottom land, under irrigation, 2½ miles to best town in Sacramento Valley. Suitable for vegetables, dairy, etc; \$57.50 per acre. Terms.

3600 acres—Stock ranch, near R. R. Well watered; fenced; winter and summer range. Lots farming land; \$8 per acre.

Tell me what you want. Will send list.

W. W. WILLIAMS,

Clunie Bldg., San Francisco.

Burbank's Spineless Cactus

We are offering for immediate delivery the improved forage and fruiting varieties Burbank cactus. We guarantee all plants true to name. A liberal discount on orders for 1000 leaves. Send for catalogue and price list.

Santa Rosa Spineless Cactus Farms or Jesse I. Jewell Mgr.

Santa Rosa, Cal.

BLACK LEG

by Cutter's Blackleg Pills. Low priced, fresh, reliable; preferred by Western stockmen because they protect where other vaccines fail. Write for booklet and testimonials. 10-dose pkgs. Blackleg Pills \$1.00 50-dose pkgs. Blackleg Pills 4.00 Use any injector, but Cutter's best.

The superiority of Cutter products is due to over 15 years of specializing in vaccines and serums only. Insist on Cutter's. If unobtainable, order direct. THE CUTTER LABORATORY, Berkeley, California.



one has no ice is to pack the rolls in a box lined with white paper, having a tight cover. Wrap these boxes in several thicknesses of newspaper and enclose them in larger boxes. Packed in this way butter can be taken several miles to market in warm weather without showing signs of melting.

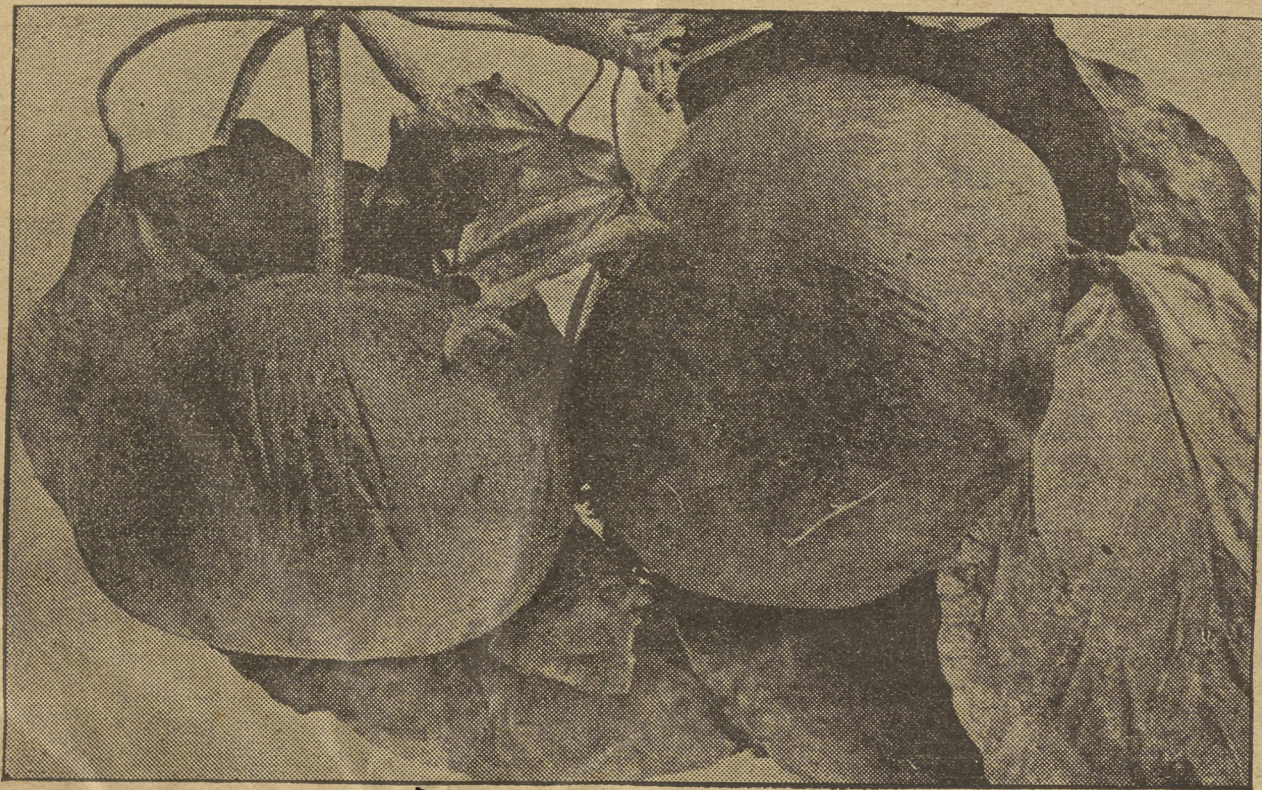
Every milker should carry a brush to brush off the loose hairs from the flanks and the udder of the cow before milking. This may seem like a fad to many farmers, but nevertheless it means nothing but what we would demand in the handling of any other kind of food.

THE CHINESE WOOD-OIL TREE.

A Beautiful and Useful Tree From China Which Is Considered by the Bureau of Plant Industry to Be a Valuable Acquisition.

Circular No. 108.

THE Chinese wood-oil or tung-oil tree (*Aleurites fordii*) is grown on the heavy-clay hillsides and waste places along the Yangtze river above Hankow, where the rainfall is heavy and the climate is similar to that of some of our southern states, although the temperature does not go so low in winter. The tree is probably not very longlived and would be comparable in this respect to the silver maple. It drops its leaves in winter and does not wake up early in the spring, like many trees, and therefore is not likely to be severely injured by late frosts.



OF THE CHINESE WOOD OIL TREE.

The flowers come out before the leaves. They are fully as large as catalpa flowers, and the tree in bloom is a very pretty sight. As an ornamental the wood-oil tree is likely to prove about as desirable as the catalpa, but the soft wood is of little value and, like many other soft-wooded trees, the branches break off easily in heavy winds.

The Chinese wood-oil tree commences to bear fruit when four or five years old. The fruits are the size of small apples—from two to three inches in diameter. They contain from two to eight (most commonly five) large, oily seeds that are reported to be poisonous and should not be eaten. They at least have a purgative effect, similar to that of the castor bean, to which the wood-oil tree is botanically distantly related. The yield of these nuts in China is reported to be from 30 to 75 pounds per tree.

Economic Value of Wood or Tung Oil—The value of this Chinese tree lies in the fact that the nuts contain one of the best drying oils known, called wood or tung oil. In recent years this oil has produced, it is reported, a revolutionary effect on the varnish industry of the United States. It has largely taken the place of kauri gum and has made possible the manufacture of a quicker drying varnish, which is less liable to crack than that made from kauri gum, and has been found of special value in waterproof priming for cement.

This valuable oil constitutes about 23.9 per cent of the substance of the nuts, and its market price, which is normally 6 to 7 cents per pound, has risen recently to 12 cents. If figured out on the basis of one pound of the applelike fruits yielding 0.58 pound of nuts and 0.138 pound of oil, a pound of fresh fruits would be worth from 0.82 cent to 1.6 cents, and a bushel, which would weigh approximately 27 pounds, would be worth from 22 to 43 cents, depending on the market price of the oil. For comparison, 65 cents a bushel is considered a fair price for apples.

Not more than 108 trees (i. e., 20 by 20 feet apart) should be planted to the acre, and this would mean a possible gross yearly return of from \$23 to \$46, depending on the market price of the oil figured on the above basis. One eight-year-old tree belonging to Mr. W. H. Raynes of Tallahassee, Fla., bore this year 852 fruits, practically two bushels, which would make the gross returns from \$46 to \$92 an acre, provided that all the trees in an orchard did as well as this one.

Cultivation—In the neighborhood of Tallahassee, Fla., land suitable for the cultivation of the Chinese wood-oil tree

is selling for \$10 to \$15 an acre, and land on which it will grow can probably be had for much less. The cost of planting, cultivation and marketing would probably not exceed \$15 an acre yearly, so that as a tree crop this wood-oil tree is worthy of consideration by the owners of cheap lands in the south.

Experiments might be made in blasting holes for the reception of the trees where soil conditions render digging difficult in the ordinary way. Since the trees are rapid growers, it is also probable that it will be satisfactory if the soil is kept free of weeds for a space of four feet on each side of the row and the center space between the rows left in sod. After an orchard is well established it may not require any cultivation, although possibly the increased crops would more than pay for the cost of clean culture.

Production of Wood Oil—The work

of gathering these large fruits will not, in all probability, approach the cost of gathering apples, which is commonly 5 cents a bushel. The nuts are removed from the husks very readily after the fruits have been stacked in heaps, and the process of crushing and extracting the oil is not likely to be more expensive than the extraction of cottonseed oil. It is also probable that the same or similar machinery can be used for the expression of wood oil.

In China, according to reports, after the fruits have been gathered and the husks removed, the nuts are put into a large iron pan about 18 inches in diameter and are stirred over a fire until parched. The seeds are then ground into a fine meal, which is heated or steamed before it is put in the press, supposedly for the purpose of assisting in the extraction of the oil.

Possibilities of the Wood-Oil Industry—In starting an Oriental industry in America the most important factor to be considered is the amount of hand labor involved. There does not appear to be much involved in this industry, as the gathering and husking of the fruit seem to be the only hand work required.

The freight haul from China to America is a water haul practically all of the way, but instead of its acting as a tariff wall to protect the grower in this country it apparently acts as a handicap, at least at the beginning of such an industry. According to recent freight rates a grower in Montgomery, Ala., routing his product to Mobile by rail and thence by water to New York, would have to pay 86 cents per 100 pounds, whereas his Chinese competitor at Hankow pays only 61.5 cents per 100 pounds to ship around the world to New York. However, it is not to be expected that these rates would be maintained in case the supply of oil became an important article of commerce. There enters into this discussion, however, the factor of a home supply of the material, and undoubtedly this is very desirable.

The American farmer has the advantage over the Chinaman of cheap, accessible lands and team labor. Since the hand labor involved in a well-planned orchard is not great, it would seem to be entirely possible by the systematizing of such an industry on large plantations to produce this wood oil more cheaply than it is now produced by the wayside plantings in China, which must be very wasteful of human labor. This labor factor in China is now becoming an important one, as the cost of labor is rapidly rising. It seems reasonable, therefore,

THE FARM

to suppose that the American extensive method of handling such a tree crop would in time overtake and outstrip the backyard and wayside methods of the Chinese.

The prospects are that there will be a continual and growing demand for wood oil. Five million gallons were imported from China last year. The growing use of soy-bean oil, it is reported, will tend to increase rather than decrease the consumption of wood oil, as soy-bean oil dries too slowly and requires an addition of wood oil to help it dry. The home demand in China is likely to increase and the opinion of importers seems to be that the American-grown oil could capture the market. If it does, 40,000 acres of trees would be required to supply the present demand.

There now remains to be considered the very important question whether

the American-grown trees will produce as good a product as the Chinese trees. This problem still remains to be determined, but will doubtless be settled in the course of a few months. There seems to be no basis for the theory, however, that the oil produced here by the same species of tree will be materially different from that produced in China. Whatever differences have already been observed in the small samples which have been expressed from the nuts produced in Florida are attributed by Dr. Rodney H. True, of the office of drug-plant, poisonous-plant, physiological, and fermentation investigations, to the method of extraction of the oil rather than to any specific difference in its composition.

Summary—To sum up the whole oil situation as it stands today in the minds of investigators of the department of agriculture:

An important plant industry, involving a present area of 40,000 acres and a possible one of several times this acreage, is here represented.

Chinese wood-oil trees have grown and fruited well in South Carolina, Florida, Alabama, Louisiana, Mississippi, Georgia, Texas and California. These trees are growing on cheap land and do not require very careful attention. The tree has stood a temperature as low as 4 degrees F., at Clemson College, S. C., without injury, except the loss of a few small lateral branches, and is slow to start into growth even when subjected to a temperature of 80 degrees F. It is therefore, not so liable to be injured when this temperature is immediately followed by a drop to 18 degrees F. There are large regions in the south where the temperature for decades at a time does not go below zero Fahrenheit, and it is in these that it should be tried. Until it is known just how low a temperature the wood-oil tree will stand without injury it is not safe to predict the northern limit of its probable cultivation.

The distribution of several thousand wood-oil trees through the south in 1906 and 1907 has brought in a considerable amount of information as to the behavior of the tree in this country. From these data it appears that the tree has done best in the more moist parts of the Gulf coast region, on deep sandy loam soils which are underlain with stiff clay. The sticky gumbo soils of eastern Texas seem unfavorable to its growth, and it has not done well on the almost pure soils of Florida.

PRODUCERS' LIST.

Information Wanted From Producers and Consumers to Aid the Service.

IT IS THE DESIRE of the postoffice department to bring the producer and the consumer into closer relation through the facilities afforded by the parcel post system. For the benefit of both producer and consumer, it has instructed certain postoffices to submit to those desiring it a list of producers who are willing to deal directly with the consumer through the parcel post system.

The attached list of farmers living within practical shipping distance of this city have furnished their names to this office as being desirous of selling to the consumer through the parcel post service in San Francisco.

It is suggested that to secure the greatest benefit from this service consumers select from the list the names of several farmers, correspond with them, and give them an opportunity to demonstrate which is the most satisfactory to deal with. When such a producer has been found, the proper financial arrangements should be made. It would be a good plan to give the producer the current prices in San Francisco as a guide to his own charges. The question of a proper shipping container should also be settled. A strong market basket will do for all ordinary purposes, and need not be so heavy as to require much postage for its return. It is well in shipping eggs to use a special container made for the purpose. This container may be shipped in the market basket or other receptacle containing other produce. The United States department of agriculture has conducted extensive experiments with different egg containers, and upon application to the director, Experiment Station, U. S. Department of Agriculture, Berkeley, Cal., full information will be furnished.

In ordering, the time of delivery should be specified, so that goods may be shipped in harmony with the delivery system in San Francisco. Do not order goods to arrive later than noon on Saturday. In San Francisco goods arriving in the morning are delivered in the afternoon, and those arriving in the afternoon are delivered the following morning.

In ordering from the producer, it is suggested that it is most satisfactory to order in quantity, as this reduces the postage materially. The rate in the first and second zones is five cents for the first pound and one cent for each pound thereafter up to 5 pounds. Several families ordering together can make up a large order, and therefore can command much better service. The expense for postage and containers is much less, and the situation is much more satisfactory to the producer.

Information on certain elements of the parcel post service are of vital interest to the postoffice, in order that the service may be checked up, corrected and improved. This office, therefore, solicits correspondence from producers and consumers on the following points:

1. Name and address of farmers who are giving particularly satisfactory service.
2. Articles which seem particularly adapted for parcel post traffic.
3. Condition in which articles, when well packed, are delivered.
4. Promptness of the postal service in delivering parcels.
5. Comments on the value of different containers and method of packing.
6. Comments upon prices charged by producers or offered by consumers.
7. Reports of failure of the system through neglect or inattention on the part of producer or consumer.
8. Suggestions for the improvement of the service.

San Francisco, July 1, 1914.

Charles W. Fay, Postmaster: The list which appeared in the Farmer last month remains the same, except that the name of J. Haller, Gilroy, is now omitted, and the following are added.

Blue Ribbon Farm, Box 5, Sebastopol, Cal., First—Half-chests special pack blackberries, finest, \$2, delivered. Gravenstein apples, finest, box, \$2, delivered.

Hamilton Farms, Petaluma, Cal., First—Guaranteed new-laid eggs.

Lammers, V. L., San Jose, Cal., R. R. No. 2, First—Rhubarb, 2½¢ per pound; Transcendent crabapples, 8¢ per pound.

Langdon, Dr. S. W. R., Winton, Cal., Second—Mammoth blackberries.

Lester, N. M., Gridley, Cal., R. R. No. 1, Second—Tomatoes; all fruits in season.

Osborn, Hal G., Los Gatos, Cal., First—Almonds and dried fruit; write for price list.

Quackenbush, E. B., Los Altos, Cal., First—Apricots, choice Santa Clara Valley, in crates of four baskets, \$1.50 per crate, postpaid.

COUNTRY LIFE.

A Paper of Peculiar Interest to All Who Live in the Country.

By Mrs. Emily Hoppin.

THE exodus of people from the farm has been made a subject of investigation by both state and national commissions, and has resulted in recommendations concerning education, moral influences, sanitation and economic conditions.

The abstract idea of many concerning country people can be epitomized in the words of Edwin Markham:

Bowed by the weight of centuries, he leans
Upon his hoe, and gazes on the ground;
The emptiness of ages in his face,
And on his back the burden of the world.

What gulfs between him and the seraphim!
Slave of the wheel of labor; what to him
Are Plato and the swing of Pleiades?
What the long reaches of the peaks of song;
The rift of dawn, the reddening of the rose?

Then in the words of John Vance Cheney, in a poem that has found its way to ex-President Eliot's five-foot shelf of books:
Need was, need is, and need will ever be
For him, and such as he;

Cast for the gap, with gnarled arm and limb!
The mother molded him,—

And aye she gives him, mindful of her own,
Peace of the plant, the stone.

The truth is that the farming of today is a science; not even as a common laborer is there a place for the man with "the emptiness of ages in his face," "the peace of the plant, the stone."

The country life needs alert men and women with minds trained to grasp, not only the possibilities of the soil; but the needs and possibilities of their own lives.

Country Life From Viewpoints—In this paper, I shall speak of country life only as observed in our own little corner of the country, though no doubt conditions are very much alike in most, if not all of the state; and I shall speak of country life from two viewpoints; the economic and the aesthetic.

Everywhere we hear of the "back-to-the-farm movement," and of plans to keep on the farm the girls and boys already there. It will be no trouble to do either when the city boys and girls are taught something of the pleasures of agriculture, and all are convinced there is money in sight.

Two things take the young people to the cities; one is the social life, the other the dream of more money; then too, the life seems easier. All things seem possible to them; they say to themselves—

Not Jove, nor Mars, mine be some
figured flame,
That blends, transcends them all.

They think it comes for the thinking and asking. They know nothing of the struggle for place, the sordid life, the hand-to-mouth existence of the workers of the cities. They have seen the long working hours of the country, the fluctuating seasons, and they think city life and work spell success. They do not realize that the years of struggle in the cities do not in many cases, even bring a living competence for old age. Neither do they realize that many times false ideals of life are created for their children.

Country Life Has Changed—The ideas of country life need rearranging, for the country life of today is so different from that of 50 or even 20 years ago. The telephone that is in every home with central in a town, brings not only neighborhood communication, but puts one in direct touch with the cities.

The roads are a large factor in a contented country life. When California brought before the voters her \$18,000,000 bond issue for a great highway connecting county seats, the people voted yes gladly, with the thought that each county would have one convenient, well-kept main thoroughfare. This has proved a delusion. The road commission has in at least one county paid very little attention to existing roads, but has made it their object to reach a given point in the least possible time, and are paralleling the railroad, which necessitates buying expensive rights-of-way, and of building a road that the general public cannot use with safety.

In our long, rainy season, it means everything to country people to have for their use a well-built road; it means equally as much during the six months of sunshine. It is a great pity that the people's money should go toward constructing roads that are not for the direct benefit of the people who live near them. It will be a long time before the automobile will come into general use as a carrier. Although one is found on many farms, it is only for family use. The good old horses still draw the loads of farm produce,

that have to be quickly and cheaply carried to market. The good roads should be primarily for the use of the farmer, and not the pleasure-seeking automobilist.

Schools Should Help Country Life—The schools can enter largely into both the economic and aesthetic conditions of country life. The school gardens and school agriculture can help not only the development of nature study, but can help character building. They can teach not only industry, but other secrets of ethics. The planting of the flower seed, the bulbs and tree seeds in the school plots of grounds, may in later years send the city boy to the country, and hold the country boy in his home, for the care necessary for the growing things, unconsciously brings a love for them, and as they develop day by day, they gradually seem a part of one's life.

Farm Loans Would Help—Another incentive to country life is a reasonable interest on money to move the crops quickly, and to invest in land. Few purchasers of farms have enough capital to fully pay for them. Sowing alfalfa and putting out orchards cost a great deal; stock is high priced; the farmer has to borrow, and then wait (as in the case of fruit) several years before he realizes from his investment. He goes to the bank and borrows the money at from 6 1-2 to 8 per cent. He could easily pay the loan under ordinary conditions; but alas! The Lord does not always send his rains on the just; he is very likely to send the north wind instead; sometimes, even without old age, the grasshopper is a burden. All these things are not moneymakers, and our farmer is harrassed by debt before he realizes. The government loans money for 2 per cent to the same bank that loans it to the farmer for 8 per cent. If the farmer could borrow directly of the government at, say 3 per cent, pay every year on the amortization plan, say 6 per cent, half of which should go on the interest, and half on the principal, it would do more than anything else to help out the back-to-the-farm movement.

The currency bill, now before congress, while it helps the farmer somewhat, does not reach the man who has no credit with his local bank. He must have some help to acquire land. There is in cheap interest a possibility of inflated values, and unnecessary borrowing; but these dangers are small when compared with the advantages of acquiring a home without the tremendous drawback of high interest, the possible failure of crops, and the worry over "What shall I eat, and what shall I drink, and wherewithal shall I be clothed?" Add to that, "How shall I pay for labor?" and you have the problem that is not only driving the boy from the farm and keeping the city boy from it; but is keeping the immigrant from the land.

Real Estate Agents Misrepresent—A man comes with \$10,000; buys 40 acres of land, builds some outbuildings, and a small house; buys some stock, puts a mortgage on his place, and settles down to easy living, for has not the real estate dealer figured it all out? Fifteen acres of alfalfa, 12 tons to the acre, \$10 per ton average price, cost of production \$5 per ton, net per acre, \$60, or \$900 for the 15 acres, or he can keep cows on the 15 acres, and have a net profit of \$1600; then he can have 15 acres in fruit; the smooth-tongued real estate dealer easily figures a net profit of \$2500 a year from 15 acres of fruit; he is also to have eight acres in raisins, they will bring him a net gain of \$200 an acre or \$1600. The real estate man tells him a wonderful story of Jones, who came to the country ten years ago with his earthly assets on his back, and he is now a rich man from raisins. No wonder our buyer is dazed with our glorious California, think of it. A yearly income of nearly \$6000 from an outlay of \$10,000. Why should a mortgage fret him? He sees just before him a six-cylinder car, an up-to-date bungalow, a hammock on the piazza, and in it a man who looks like him, taking his ease. The mortgage is paid and all he has to do now is to lie in the hammock and cut coupons. This is all true, for he has seen the figures, and figures don't lie. If only the man who wrote the figures, didn't lie either, the millennial days would be at hand. In five years, our friend is a sadder and wiser man. He had dropped onto Elysian days too soon.

There is no royal road to fortune on the small farm. You have to use your head and your hands; but for the clear-headed, industrious man, there is a competence and a cheerful, comfortable old age, if he is willing to do his part. Even debt need not always daunt him; it need never daunt him if our patriarchal Uncle Samuel will come to his help. It would be a paying thing for Uncle Samuel, too; 3 per cent instead of 2; each year some of the principal coming in to help other men to start, and best of all, the consciousness of

THE GRANGE

helping bona fide settlers, and of taking from the city some of the trouble-making element. It is the men of the cities who brew the witches' cauldron of discontent, and envy, and anarchism. Take these men from the city, let them acquire a competence, and their radicalism quickly changes to conservatism.

Another help to the back-to-the-country movement, would be the going there of some of the philanthropists, who sitting in their easy chairs, plead with all their brothers to go back to the land—go back to the land; yet who do not lead the way. The country has fine possibilities for the man of wealth. Machinery has the cost of production down to its minimum; the electric roads are already beginning to interlace the country, bringing the city within a short ride; money could have the beautiful home, the complete water and lighting systems; the comfortable automobile, all the advantages of the city with the advantages of the country without the disadvantages of either.

The Country Church a Factor—The country church could have a large influence on country life. As it is now, it has very little. The country as well as the city needs men of ability. The young men and women of the country are not only high and normal school graduates, but our colleges and universities have a generous percentage among them. It is a mistake to send men of mediocre ability to the country church.

The social life is a very important factor in a happy country life. The clubs are in the vanguard of those who have helped to make it count for happiness. Clubs are scattered now through most country communities; not only the purely social club, but those that help to form the literary tastes of the country people. The county libraries, the farmers' institutes, the university farm, and the university extension through its correspondence courses are doing a wonderful work in helping to raise the economic life of the farm to a more productive plane, and at the same time, create higher ideals for the social and intellectual life.

The Inner Life Most Important—It is a sordid philanthropy, however, that does not try to touch our inner life. What is the money, what is the intellectual life compared to the growth of the soul, the love for the beautiful and good? Of what use to one is the beauty of the country if he has not eyes to see?

The primrose by the river's brim,
A yellow primrose was to him, and
nothing more.

Part of the mission of the public schools ought to be the cultivation of the esthetic part of our nature; otherwise the farm life becomes a dreary monotony. One summer I had occasion to take an eight-mile ride twice a week for several weeks. There will always be in my mind the picture of those beautiful mornings when the earth was just awaking from her night's sleep, when the clouds lay in long white bars across her breast; when in the distance the snowy Sierras showed white, and crimson and gold, as the rays of the morning sun touched their summits. They were mornings to remember, when,

Over the valley, in early summer,
Over the mountains, on human faces,
And all around me, moving to melody,
Floated the gleam.

All Life Has Compensations—Even the summer days of the hot valleys have their compensations. The heat for four hours lies in shimmering waves on the hot ground; the leaves of the trees droop, and you long for the ocean waves, or the cool mountain brook under the trees; then suddenly a cool breeze stirs among the trees; and as soon as the sun has set, the evening comes with its long twilight, and its wonderful star-lit nights. "They" are nights to remember.

The work too has its compensations. To make the soil do its best; to see the grain, the trees, the vines, the flowers growing and know that you have helped to make their beauty; to care for the gentle animals that repay so well your care and affections; to hear the birds that year after year come back to you to rear their young; these are really joys to the eyes that see, and the ears that hear; yet one who has not experienced them cannot realize that there is in the country not only a living, but a pleasure and a growth for the soul.

These are the things I prize, and hold of dearest worth.
Light of the sapphire skies, peace of the quiet hills.
Shelter of forest, comfort of the grass,
Music of birds, murmur of little rills,
Shadows of clouds that quickly pass.
And after showers, the smell of flowers,
And the good brown earth—and the good brown earth.
And best of all, along the way, friendship and mirth.

Corn, the last of the great cereals to be discovered, is now grown over a greater area of the earth's surface than any other grain except wheat.



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SAN FRANCISCO.

The Grange at San Francisco, 1915—There is a strong sentiment among New England grangers to come to California in 1915. The benefits to be derived from a visit to California by a large percentage of the grangers of the United States will be very large and without a doubt such a journey would be beneficial to all who can afford to make it.

One of the most successful grange insurance companies in the United States is that located at Olathe, Kan. The company closed its last year on December 31, with \$18,184,198 in insurance on its books. The total receipts of the company for the year were \$82,441.84, and the entire operating expenses were \$7,736.80. The association closed the year with \$55,904.39 in its treasury.

Ground limestone and marl are best to apply to a sandy soil.

UNDER AGE.

ONLY the other day Mamma took little Bessie downtown on the streetcar with her. And, in turn, little Bessie took Martha, her very largest doll, along with her.

In fact, Martha was almost as large as Bessie; so much so that could you have seen them on the street together you couldn't have told whether Bessie was carrying Martha or Martha Bessie.

They had just settled themselves comfortably in the car—with Martha safely ensconced between Bessie and Mamma—when the conductor came along for the fare. Now, as it happened, this conductor was very fond of children and always acted most polite and dignified when little Bessie would hand him the fare for herself and Mamma.

So, as usual, he called out, "Fares, please!" in his most solemn tones and extended his hand to Bessie. She gave him the ten cent piece Mamma had given her for that purpose and tried to look quite indifferent and "grown-up."

"Excuse me, Miss," said the conductor severely, though, if the truth be told, he seemed to be finding it most difficult to suppress a smile at the corners of his mouth. "Excuse me, Miss, but this is only for two of you. I must have another nickel for this other little girl!"

Bessie looked up at him in amazement. "A—a nickel for—for Martha!"

"Yes," declared the conductor sternly. "She's as large as you are—and she's too old to ride free. Full fare for children over four—them's my orders, Miss!"

Bessie stared at him wildly for a moment, then at her Mamma and then—then she smiled.

"Oh, no, Mr. Conductor!" she said in quite positive tones. "Excuse me, but Martha is not over four years old—why she was given to me only last month!"

But the conductor didn't stay to finish the argument. Instead, with his hand to his mouth, he rushed for the back platform. And Mamma and all the other people in the car were laughing, too.

So was Bessie—but for a different reason. She thought that the conductor didn't know that Martha was just a doll! What do you think about it?

THE FIRST CANOE.

By Rhea E. Ducavie.

Once upon a time there lived an Indian. He was a very nice one, and all the other Indians liked him. One day he said to his neighbors: "I need a canoe, will you help me make one?" "Yes, we'll be glad," said an Indian. "I will help you in every way that I can." So the Indians all started to make one. This was the first canoe they had ever made.

One Indian cut the bark off the tree. The others smoothed the wood. The canoe was all made when a Indian said: "We ought to make some oars." They made the oars and they had the best canoe in the village, and all the Indians who made it were very proud.

A LETTER FROM THE EDITOR.

Dear Children: I am more than pleased with your letters, they are so nicely written, most of them on one side of the paper, and carefully spelled. A few could write and spell better, I know, if they would try a little harder, and not be in a big hurry.

You will still have to exercise patience before you see your letters in print, for there are so many of them. Some of you who have been waiting a long time may perhaps guess why your letters do not appear. Now, think hard and try to remember if you wrote on one side of the sheet only, and signed your name plainly.

For reasons which I cannot explain here, the selection of a suitable pin for the members of the Copo de Oro club will have to be delayed awhile longer, perhaps until school begins again.

When you see this letter you will all have been enjoying your school vacation, and I hope that you will all have some report to make when school begins of something interesting or good that you have done while out of school. Try and keep this in mind.

THE CHILDREN'S EDITOR.

Fowler, Cal.

Dear Editor—I read the letters out of the Farmer's section every Monday and am going to write. I live on the McCall avenue, one-quarter mile east. I go to Prairie school. I like to go because it is a good school. I have four pets, one dog and three cats. One is a little cat and it plays like mischief. I hope this will be published. Yours truly,

HORACE FINE.

CHILDREN'S DEPARTMENT

Edited by KATHERINE DUNLAP CATHER

A PAGE OF LETTERS.

Arroyo Grande, Cal.

Dear Editor—I have been reading the letters in the children's department, and enjoy them very much. I would like to know more about the Copo de Oro club. I am 11 years old. I have a pet rabbit and she has 11 little ones. I have three sisters and two brothers. If you think this is good enough I would like to see it in print. Yours truly,

MARY CRAMPTON.

Colusa, Cal.

Dear Editor—I have been wanting to join the Copo de Oro club for a long time. I am nine years old and have just been promoted to the fifth grade. I live in the town of Colusa and go to the Webster school. I have a dog named Pedro and have lots of fun with him. Hoping to see this letter published, I am your friend,

ALFRED LEE BAUM.



THE SHEEP.

The sheep is generous to man
Who shears its body bare,
That we may have the nice warm suits
Of woolen clothes to wear.

While snugly wrapped in woolen robes
We never seem to care
How many sheep are shivering
Out in the wintry air.

Campbell, Cal.

Dear Editor—I would like to join the club very much and would love to wear the badge. I know it will be very pretty. I read the children's page and like it very much. I am nine years old and I am in the fourth grade. I have a bantam hen. I have a baby brother. I have a sister that wrote a letter too. With love,

DOROTHY COLLINS.

San Jose, Cal.

Children's Page Editor—If you consider my story good enough, will you kindly publish it in the Sunday Mercury? I am in the seventh grade of the Grant grammar school. I enjoy reading the children's stories, and I am anxious to be able to write them. Respectfully,

ALMA WAGNER.

Sebastopol, Cal.

Dear Editor—I would like to have one of the club pins you mentioned. Please tell me how to get one. My father is digging us a swimming pool in our woods. It is going to be three feet deep. I have a cherry tree, an apple tree, a pear tree, and a prune tree. Also an apricot tree. Hoping this will be published, I am, Your friend,

HERMAN SINGER.

Watsonville, Cal.

Dear Editor—I enjoy reading the letters the other children write. I have a pet dog whose name is Frisky. I have lots of fun with him. I am ten years old and I have finished the fifth grade at school. I go to the Hill school. There are 14 pupils. Yours truly,

GLADYS MERRIMAN.

San Jose, Cal.

Dear Editor—I have read the children's department and been thinking of writing for a long time. I have two older sisters and two younger sisters. I will be ten in June. I go to the Lowell school and am in the high fourth. I will write again if it is published and hoping it will escape the waste basket, so my mother and father can see it. Yours sincerely,

SHIRLEY B. BRIDGER.

Red Bluff, Cal.

Dear Friend—I should like very much to become a member of Copo de Oro club. I should also like a badge. Please excuse the pencil, but I could not find a pen. Yours truly,

RUTH GARRET.

Wheatville, Cal.

Dear Editor—I have been reading the letters in the children's department a long time, so I thought I would write. We live 30 miles from Fresno. There are four girls and three boys in our family. I am the oldest. I am 12 years old. Baby Ada is seven months old. If this letter is printed I will write another letter. Yours sincerely,

FAY BELL JESSEE.

Turlock, Cal.

Dear Editor—I have never written before so will write a few lines now. I would like to join your club. I read the children's department every week. I am 11 years old today, and am in the

seventh grade at school. My two brothers had nine pet rabbits, they had five young ones, but the cat took one of them. Will close for this time. Hope this will escape the waste basket. Yours truly,

MYRTLE PETERSON

Shellville, Cal.

Dear Editor—I thought I would write to you. I am nine years old, and I am in the fifth grade at school. I have a canary bird. He is very old, but sings a lot. His name is Jungle. I also have two dogs. Their names are Birdie and Prince. I play croquet with my friends. My sisters and myself go and play it. I like it. One night we got home very late, because we played about six games. I will close now, hoping my letter will be published, I remain, your friend,

MARGUERITE HELBERG.

stories in the Farmer's section each week. They are very interesting. I am 14 years old. I am in the eighth grade. I took the Boxwell examination last Saturday and I have not heard yet whether I passed or not. If I have passed I can go into high school. I hope I have passed, don't you? Hoping to see this in print next Sunday. Yours truly,

HERBERT MORROW.

P. S. I like the Copa de Oro club very much.

Fowler, Cal.

Dear Editor—This is the first time I have wrote to you. I have read the letters in the farmer's section and I have thought them very interesting. I am eight years old and am in the third grade. I have four pets.

HAROLD FINE.

Hollister, Cal.

Dear editor: I am 11 years old, and I am in the seventh grade of school. I go to the Lone Tree district school. I live in the country, 14 miles from Hollister. The name of the ranch is "Rancho Las Cimas." We have a little pet rabbit.

Yours sincerely,

PEARL MANKINS.

Fresno, Cal.

Dear editor: My cousin Gwendolyn wrote so I thought I would. I go to St. Augustine's academy in this city. I have two sisters, Lillian, age nine, and Grace, two. Well I close and hope this will be printed. Goodbye.

Your sincere friend,

ELEANOR PARRET.

Fresno, Cal.

Dear editor: I have read the letters in the Copo de Oro club. I am in the eighth grade. School will be out June 12. I have two sisters, Helen and June. I can play the violin a little. Well I will close and I hope this will be printed by next Sunday.

Your new friend,

GWENDOLYN PARRET.

Fresno, Cal.

Dear editor: I love your little club and I thought I would write. I have two pets, a canary bird, Dick, and a dog, Jackie. I am in the seventh grade. Well, I will close hoping this will be printed. I have a sister, Billie, who I read the paper every Saturday and she enjoys it fine. Hoping you good luck,

Your friend,

ZELLA SMITH.

Mt. Dome, Cal.

Dear Editor: I will write a letter tonight. I have had three little ducks, but two died. The one I have yet is white. I go to school now. Our teacher, Miss Sherman, boards with my folks. We drive to school in a cart. Your friend,

LAWRENCE LAIRD.

Turlock, California.

Dear Editor: You did not print my third letter. I would like to know more about the pins. I am going to tell you what I look like. I have black hair, black eyes, dark complexion, drooped mouth and am 4 feet 2 inches tall and weigh 68 pounds. Now you know how I look. I will close. Lovingly yours,

KATIE LEON.

Turlock, Calif.

Dear Editor: As I was reading the letters in the "Letter Box," I thought I would send you one.

I go to the Elim union school in Irwin, six miles south of Turlock. We have a little over one mile to school, but we don't have to walk, because we have school wagons to ride in. Our school closed May 22. We have had almost two weeks' vacation but will have much more. I hope my letter will be published. Yours truly,

NAOMI ANDERSON.

Hollister, Cal.

Dear Editor: I have never written before, but now I will tell you about a coyote. Night before last my parents were going to bed when they heard a growling and snarling outside. They went to the window and saw a coyote standing there. The dog and the coyote were fighting and my father separated them. Yours truly,

ELEANOR LILIENCRANTZ.

Hollister, Calif.

Dear Editor: I am nine years old and expect to enter the third grade next year. I took a colt from the snaffle bit and broke him to the curved bit. We go after the cows every night. We have a pet rabbit. His name is "Bunny." I hope this letter will escape the waste basket. Yours truly,

CATHERINE LILIENCRANTZ.

Hollister, Cal.

Dear Children's Editor: I am 13 years old and will enter the seventh grade. I live on a 4000-acre ranch. I have two friends, their names are Catherine and Eleanor Liliencrantz. My father is foreman for their father, Mr. H. T. Liliencrantz. We live 14 miles from Hollister. Your friend,

AUDERY MANKINS.

Willoughby, Ohio.

Dear Editor—I read the letters and

FRANCES GUERIN.

EDUCATIONAL

EXHIBIT OF PUPIL'S WORK.

A Surprisingly Fine Showing of Children's Handiwork at Home and at School.

WILLOW GLEN schoolhouse was the setting for an exhibition of products made and grown by the pupils which exceeded the most sanguine expectations of those most interested in that line of school and home work.

This was unique among school exhibits, for it included not only the domestic science and manual training articles made in school, but vegetables and cut-flowers grown by the children, rabbits and poultry raised by them, jellies, jams and preserved fruit and vegetables, needlework and carpentering done at home. Many of the articles and produce exhibited were sold by the children and the purchasers seemed to be well pleased with them. It is proposed to have these exhibitions and sales often or as fast as the children may be prepared.

The selling of children's handiwork is unusual, particularly as in this instance the money went to the children instead of for some specific object or into a general fund.

It is claimed by some who are interested in industrial work for children that the sale of their products and an accounting of the way the money is used will prove to be a most important factor in giving them an early insight into the workings of business principles and will encourage thrift, a quality or habit that is sadly neglected at this time.

If this is true and the importance of exact honesty in their dealing is impressed upon them in their early school life, then the benefits of an industrial education beginning with the children in the first grade would prove still greater than is usually supposed.

The number of exhibits at this school meeting amounted to one hundred and fifty-seven.

HOME GARDEN AND CANNING SCHOOLS.

Under Direction of Educational Department, Illinois Federation of Women's Clubs.

By Mrs. Fred L. Hatch, Chairman, Spring Grove, Ill.

PROFESSOR O. H. BENSON, of the United States department of agriculture, specialist in charge of Garden and Canning clubs will visit Illinois during the third week in July and spread the gospel of his wonderful work in conservation, that is developing the lives and bringing out the capabilities of splendid young womanhood in many parts of our country. What the Corn club is doing for the boys of Illinois, the Garden and Canning club will do for the girls.

The educational department of I. F. W. C. has been most fortunate in securing Mr. Benson as instructor in their Home Garden and Canning schools, to be held at De Kalb normal, July 13-14-15, and at East high school, Aurora, July 16-17-18.

Mr. Benson will tell of the importance of home canning and its relation to the food supply and health of the people, and by means of beautifully illustrated lectures, stories of various club activities, and of individual accomplishments showing real sympathy with boy and girl life, will speak straight to the heart of every one. Mr. Benson believes that the boy or girl who has learned to do one thing well is practically safe for all time and can be led on to other and greater achievements.

Housekeepers Will Be Instructed—Of surpassing interest to housekeepers will be the demonstrations of the cold-pack method of home canning of all kinds of fruits, vegetables, greens, sweet corn (on and off the cob), fish, meats, meat juices, etc., using home-made canning outfits and four distinct distinct types of commercial outfits, all of which are portable and available for use in the backyard.

No "canning compounds" are used. It is a lamentable fact that many women, especially in small towns and rural districts, are using dangerous, illegal chemical preservatives in their home-made canned goods.

Dr. Harvey W. Wiley says that no chemical compound is necessary in canning. The selection of good materials and complete sterilization with careful sealing are all that is necessary.

Canning Compounds Not Necessary.—This is exactly what Mr. Benson teaches by so simple a method that a child can learn it. The form, color, and texture of fruits and vegetables are preserved. By placing them in

the cans in a fresh state, volatile oils are retained and the fresh, dainty flavor is not lost.

Beans need not be left on the vines to become tough, nor carrots and beets to become fibrous and woody—they may be canned when they are sweet, tender and juicy, and saved for the winter table. Windfall apples, thousands of bushels of which are wasted every year in our state, may be preserved so that they will be fully as delectable as though they came from the corner fruit stand at 5 cents a piece.

It is estimated that 1500 cans of tomatoes were put up last year by members of the Girls' Garden and Canning clubs. The average cost to the clubmembers of producing and putting up a No. 2 can of tomatoes was a trifle less than 4 cents. The average girl with one of the modern, labor-saving devices in home canning, can put up almost 300 cans a day.

What Girls Have Done—There is an interesting story of Miss Virginia Cogdell of Hazelhurst, Copiah county, Miss., who canned and preserved her way through Mississippi Normal college.

Last year, six girls paid their way for an entire term of the Mississippi Normal college from one season's profit.

Scores of girls are reaching the short courses at the State Agricultural colleges by this route.

Many crowded city slums have been greatly benefited by the organization among the children of Garden clubs and by teaching them how to raise vegetables. One boy in a backyard of a large city cultivated flowers and vegetables that netted him \$22, one season.

Practical and Aesthetic Values Combined—The value of such practical vocational training to the youth of our land can never be estimated in dollars and cents. It means teaching our children to do a splendid piece of the world's work—the effectual elimination of waste. There is an aesthetic, as well as a practical and educational value, not to be overlooked. The garden movement will surely cultivate that inborn love of the beautiful in tree and bud and flower—stunted in all too many of us.

Mr. Benson is an inspiration to every boy, girl, man and woman who hears him—and no one can hear him talk and see his pictures and not be deeply moved and inspired to do something for the growing boys and girls of our state.

Thrift Will Also Be Taught—The American Society of Thrift, with headquarters in Strauss Building, Chicago, is an educational organization, whose object is to teach thrift, saving and economy and thus halt the prodigal spirit of our times. Mrs. Grace Wilbur Trout is one of the directors, and governors of several states compose the advisory council.

This splendid organization will co-operate with the clubwomen of our state, bringing produce and consumer in more direct relation through the organization of thrift committees—similar to the Women's guild that is back of the great co-operative movement in England.

CREDIT FOR HOME WORK.

A plan for combining actual work on the home farms of students with classroom instruction in the county agricultural schools has been developed in Massachusetts and is being copied in several other states, says the Weekly News Letter of the department of agriculture. Each student is required to outline some project of a farm enterprise which he will carry out on his home farm under the direction and supervision of his instructor. He himself, however, is responsible for the proper performance of the work and must report upon its progress. The project is considered as much a part of the student's work as attendance in the classroom. This plan bridges the gap between the theoretical and the practical, bringing the instructor into contact with actual farm problems.

Agricultural Girls—The Ellensburg Wash., Normal girls have adopted the slogan, "A Farmer's Life for Me," that is all those who have joined the girls' agricultural class. Each girl is allotted a plot of ground 5x25 feet in which she has planted beets, onions, radishes, potatoes, beans, carrots, peas and lettuce. These girls have also devoted some weeks to the study of horticulture and dairying. The fact that the girls have taken up agriculture enthusiastically speaks volumes for their good sense and independence and while a plot of ground 5x25 feet is pretty small, it will do for a starter and will lead up to larger operations as their interest in growing things increases.

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Make Sick Chickens Well. Also turkeys, ducks and pigeons. New remedy, Oculum, 50c and \$1 bottles.

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MEN AND WOMEN WANTED FOR Government jobs; \$65 to \$150 month. Vacations. Life jobs. "Pull" unnecessary. List of positions available sent free. Write immediately. FRANKLIN INSTITUTE, Dept. H-181, Rochester, N. Y.

WANTED—MEN AND STOCK TO grade land Yuba county, for planting orange and olive trees and alfalfa, season 1915. Will you accept payment in land?

DUDLEY MOULTON, First National Bank Building, San Francisco.

SCHOOLS.

BE A WATCHMAKER, JEWELER and engraver. Tradesmen are in great demand at good salaries. You can learn at our school in a few months what it used to require years to accomplish. Write for full particulars. THE CALIF. COLLEGE OF HOROLOGY, 307 Bank of S. J. Bldg., San Jose, Cal.

MISCELLANEOUS.

"SMITHS PAY THE FREIGHT." To reduce the high cost of living, send for our Wholesale to Consumer Catalogue. SMITHS' CASH STORE, 108-F Clay St., San Francisco.

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Contains an interesting magazine section, unequalled for its literary features, including many pages of telegraph and local news that is absolutely dependable.

THE WEEKLY CHRONICLE

Contains the selected news of the wide world.

A small sewing outfit to place in the traveling bag when going visiting will be a great comfort and convenience. It can be made of linen or silk.



Kellogg's Ant Paste Makes Ants Disappear

"Kellogg's Ant Paste Co.:
"I never saw anything so effective as
KELOGG'S ANT PASTE. There was
not an ant left in the house to tell the
tale. I am very thankful and have told
all my neighbors."

Thousands of similar testimonials
have been received.
Demand Kellogg's "The Jar With the
Rattle Cap." For sale at all Grocers
and Druggists.

GOODWAY'S Pastry Whip

You Don't Have to Learn to Like This New
Product—It Wins You Instantly.

Dainty desserts at a cost of less than one cent
per dish. No cooking required. For short-cakes,
cream puffs, sherbets and hundreds of other des-
sert specialties. FIVE OUNCE CAN 25 CENTS.

Goodway's Baking Powder

Cakes made with good-
way's Baking Powder
will keep fresh several
days longer than
when made with any
other baking pow-
der one pound 25
cents.



Send Us Your
Grocer's Name
And Get Our
Free Cookbook.

Goodway Bros. Mfg. Co., Inc.
681 Market Street San Francisco
Scheff-Lang Co., 511 Higgins Bldg., Los
Angeles.

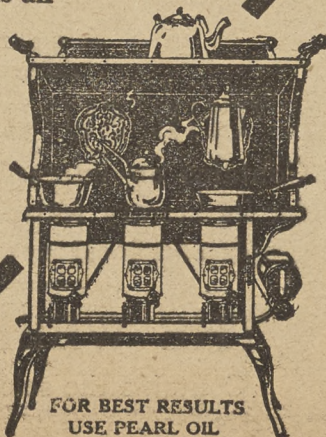
**Bakes
Broils
Roasts
Toasts**

A good oil stove does all that
a wood or coal stove will do
—and does it quicker and easier.
There is no wood, coal or ashes
to lug.
That means light work and a clean
kitchen. The

New Perfection OIL COOK STOVE

burns kerosene, the clean, cheap fuel. It is sci-
entifically constructed. The chimneys direct a con-
centrated heat just under the cooking utensils.
And the heat can be regulated—just like a
gas range. The New Perfection is an
ideal stove for home, camp or
bungalow. It doesn't over-
heat the kitchen; doesn't
smoke; doesn't taint the food.
Ask to see it at your dealer's.

Standard Oil Company
(California)



FOR BEST RESULTS
USE PEARL OIL

THE HOUSEHOLD

VALUABLE FOOD BEING WASTED.

Good Suet Thrown Away or Used For
Soap Which Could be Rendered
and Used in Cooking.

REPORTS from some of the food
specialists of the department of
agriculture indicate that in certain
sections there is a serious waste of
a valuable food, due to the fact that
many housewives do not appreciate the
value of suet in cooking and do not
know how to use it. As a result many
throw good food suet into the garbage
pail, or else in rare cases use it with
meat trimmings for soap-making. Many
are unaware that suet possesses the
same food value as lard, and if prop-
erly tried out is a satisfactory substi-
tute for frying purposes, for shorten-
ing, and in making savory fats. Ap-
parently some of the cookbooks have
misled the American housewife by stat-
ing that suet is good only for soap-
making. In Europe, however, this food
is carefully kept and rendered, and in
Germany, suet and lard are used inter-
changeably for frying and shortening.

What is Suet?—Suet is the hard fat
about the kidneys and loins in beef and
mutton which corresponds to the fat
of hogs from which leaf lard is made.

Those who do not know how to render
it object to the hardness of suet and to
its special flavor. Fresh suet, however,
can be rendered as to make a soft, us-
able fat, practically free from any dis-
tinctive flavor or odor.

The following is the simplest method
for trying out suet:

"Remove the skin and lean parts from
beef fats, and cut it into small pieces.
Put it into a saucepan and cover it with
cold water. Place it on the stove un-
covered, so that the steam may carry
off any disagreeable flavor. When the
water has nearly all evaporated, set the
kettle back and let the fat slowly 'try
out.' When the fat has ceased bubbling
and the scraps of skin are shriveled, al-
low the scraps to settle at the bottom
of the kettle, strain the fat through a
cloth and set it away to cool."

This fat is so valuable in cooking
that housewives will do well to save
all suet from their meat and try it
out.

Mixture of Suet and Lard—For those
who want a mixture of suet and leaf
lard the following recipe will be found
useful.

"Take two parts of suet and one
of leaf lard, finely ground, and mix to-
gether. Render this with whole milk
in the proportion of one-half pint milk
to two pounds of the mixed suet and
lard. (Render means to melt down or
to clarify by melting.) The suet and
lard mixture may be finely divided by
passing it through a meat grinder, and
may then be heated in a double boiler,
when the fat will be quickly released
from the tissues, and when allowed to
cool will form a cake on the surface of
the liquid which may be easily re-
moved."

This fat has a good odor, color and
texture, and is softer than the suet
alone. It is useful for frying and the
shortening of foods with high flavors
and may be used with fair results in
shortening such things as baking-
powder biscuits. It is useful for cooking
vegetables either alone or with the ad-
dition of a little butter.

Burned Fat Indigestible—The un-
popularity of fried food in many fami-
lies is due entirely to the fact that the
fat has been burned in cooking. Fat
when heated to too high a temperature
splits up and may form substances
which have an irritating effect on the
throat and may cause digestive dis-
turbances.

Fat in itself is a very valuable food
and if it is not scorched should prove
a healthful rather than an objectionable
article of diet. A slightly burned taste
and similar objectionable flavors can
often be removed from fat by putting
into it thick slices of raw potato and
heating it gradually. When the fat
ceases to bubble and the potatoes are
brown, the fat should be strained off
through a cloth placed in a wire strain-
er.

Tamales—Meat from 1-2 boiled
chicken, 1 clove garlic or 1-2 medium-
sized onion, one-fourth teaspoon cay-
enne, 1 teaspoon salt, 1 cup corn meal,
2 or 3 small red peppers, corn husks.

Chop the chicken; season with the
cayenne pepper, garlic, or the onion
finely chopped, and salt; form the
meat into little rolls about two inches
long and three-fourths inch in diam-
eter. Pour boiling water over the meal
and stir; use water enough to make a
thick paste. Take a heaping table-
spoon of the paste, pat it out flat, and
wrap a roll of chicken in it; then
wrap each roll, as made, in corn husks
which have been softened by immer-
sion in hot water, tying the husks with
a piece of string close to each end of
the roll. Trim off the ends of the corn
husks, allowing them to project an inch
or two beyond the rolls. Cover the

THE STEPHENSON PATENT COOLER

NO ICE REQUIRED

Perfect ventilation. Absolutely
sanitary.



AN ICELESS REFRIGERATOR

Awarded first prize wherever exhib-
ited. If not for sale at your dealer's,
write for particulars and prices.

L. Anderson Co., Mfrs.,
MARTINEZ, CAL.

EASY COOKING.

THE modern cookers cannot only
boil and stew, but they can also
bake, fry and roast. The process
of roasting meat is particularly inter-
esting.

The radiators are heated sizzling hot
on the stove—so hot that a bit of
white paper will shrivel and brown
almost instantly if placed upon them
—the meat is placed in the roaster
pail and the rack put inside the pail.
Then one hot radiator is put in the
bottom of the roasting compartment,
the other on top of the rack inside the
roasting pail and the cover securely
clamped down.

The pail is then placed in the com-
partment on top of the other radiator
and the cooker tightly closed. If the
roast does not weigh over four pounds,
three or four hours will cook it per-
fectly and deliciously, browning it in
the most appetizing fashion.

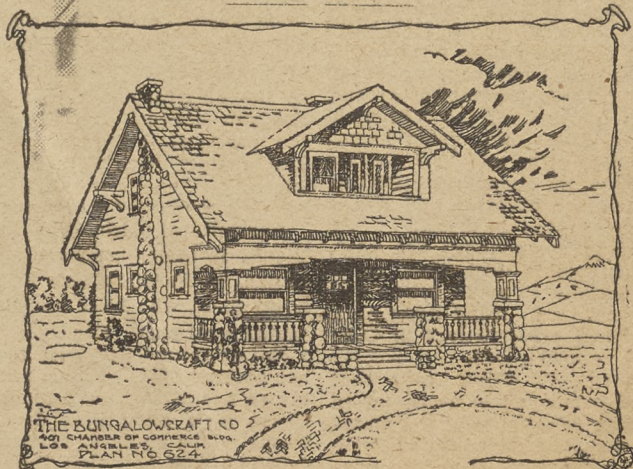
If the roast is larger it may be neces-
sary to heat the radiators once till
the meat is thoroughly done. There
will be a quantity of the pure juice
of the meat as well as fat that has been
tried out in the bottom of the roaster
pail which makes the most delicious
gravy imaginable, but needing the ad-
dition of a little water to keep it from
being too rich for ready digestion.

This is but one example of what can
be done with the fireless cooker.
Housewives all know that an oven
roast needs constant supervision, but
when the roast is consigned to the
care of the cooker it need not be even
thought of until the designated time
for cooking is up.

The relief this affords every woman
can appreciate. Too, the item of econ-
omy in fuel is by no means an unim-
portant one. Aside from the money-
saving which is large enough to pay
for the cooker in a comparatively short
time, the comfort of having no fire for
cooking during the hot weather is be-
yond expression. Less work, less heat,
less anxiety may all be credited to the
cooker. The amount of leisure it af-
fords to the busy housewife can only
be realized by actual proof.

rolls with the broth in which the
chicken was cooked, or with boiling
salted water. Add two or three small,
sharp, red peppers, and boil for 15
minutes.

A New and Cheap Way of Building Attractive Homes



The Bungalow Craft company, of 401
Chamber of Commerce building, Los
Angeles, are turning out plans for
cheap, attractive and serviceable bun-
galoes at startling low prices, made to
fit all sizes of pocketbooks. They can

build a \$1000.00 bungalow, with not large,
but ample rooms, in mission style and
attractive exterior. A \$2500.00 bunga-
lo contains all modern improvements
and is designed to make housekeeping
a recreation.

A COZY STORY-AND-A-HALF BUNGALOW

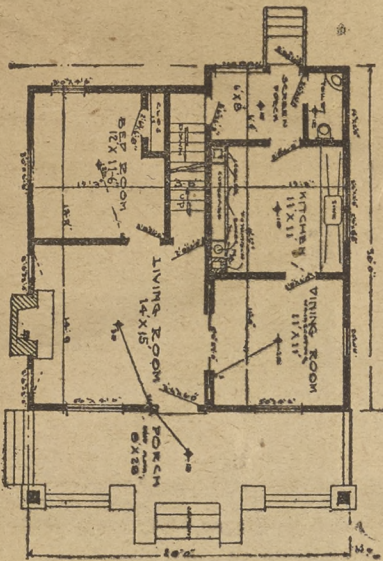
There is a steady demand for roomy bungalows to cost about \$2000 and the one illustrated herewith shows what can be done in the way of a cozy, comfortable, artistic home for about this amount of money.

This house contains a living-room, dining-room, cabinet kitchen, screened porch with toilet and lavatory and a roomy front porch on the first floor; two bedrooms, two open-air sleeping rooms, bathroom and good closets on the second floor. There is a small cellar under the kitchen and screen porch and if needed a hot air furnace may be installed at an increased cost of about \$140. The house is built on pure bungalow lines with wide overhanging eaves and gables. The front porch and chimney work as shown above is built of cobblestones, but cut stones, brick or concrete may be used with equally good effect. It is not a large house; its front is 28 feet and it can be built on a lot 36 feet wide if necessary, although it will look better on a wider one.

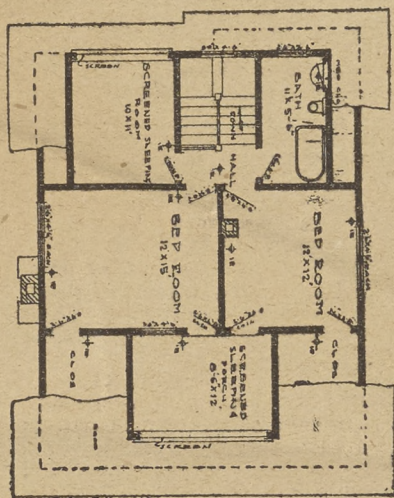
As just completed for the price mentioned above, it has narrow pine flooring finished for rugs in the living-room and dining-room, plastered and

tinted walls; high wainscoting in the dining-room; open fireplace and mantel of pressed brick. The kitchen is well-equipped with closets, cupboards, drawers, bins, shelves, etc., in full cabinet style. The rooms are not large but there is ample accommodation for a family of six or eight persons.

The California Farmer has made arrangements so that it can furnish complete working plans (drawn to 1/4 and 1/2 inch scale) and specifications for this house with every interior and exterior detail for ten dollars. We have the plans for the house as shown above or completely reversed so that it is adapted to any frontage. If you are thinking of building a home or for investment, it will pay you to send \$1 to The California Farmer for a copy of the new edition of California Bungalow Homes, just off the press. This is a book of 128 folio pages with 249 illustrations showing a large and varied assortment of one, one and a half and two-story bungalows running mostly from \$1000 to \$2500 in cost. Every house has been designed with the object of making housekeeping easy and home-making a pleasure.



FIRST FLOOR



SECOND FLOOR

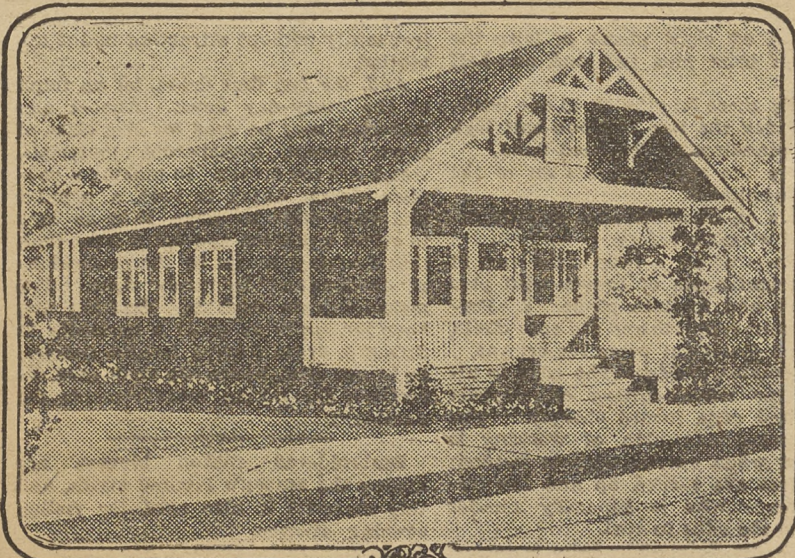
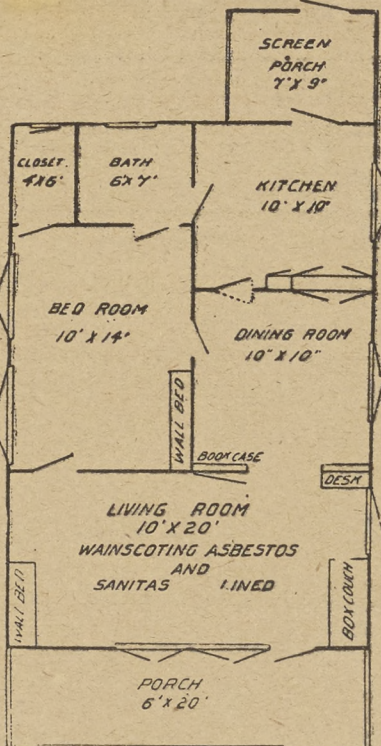
REDWOOD PORTABLE HOUSES.

A Comfortable House for Little Money and Well Adapted to Many Locations in California.

AMONG the many advantages of life in California will be found the exceptionally small cost of providing a place which is comfortable, sanitary and under certain circumstances desirable for a home.

How to build a home is always a problem whether it be of the simplest and least expensive design or elaborate and beautiful in architecture and cost half a million dollars. The problems of arrangement of rooms and conveniences are always present and must be solved, and no matter if thousands of houses have already been built of almost every conceivable style of architecture and internal arrangement, there must still be other forms worked out to satisfy still other personalities and so we are saved from any great degree of sameness either outside or in.

The Cost of a House—Perhaps as close a guess as possible to the amount one should spend in building a house would be the amount of money one can spare for that purpose at the time



FOUR-ROOM PORTABLE REDWOOD HOUSE.

the house is wanted, and the size and convenience of such a house to the person of limited means is greatly enhanced in California mild climate, where protection from the elements in both winter and summer is less costly in points of materials and labor than in states where the rigors of

winter and the heat of summer are severe.

Of late years California architects have vied with each other in the erection of low houses which are neat and tasty in appearance and still retain the conveniences of the more expensive types.

PORTABLE HOUSES

Bungalows have become very popular and have a low price range but being built in the usual way the cost is still too much for the purses of many who are just starting in life or others who for various reasons desire a more inexpensive house.

The Portable House—To supply this demand the ingenuity of men interested in building houses, has been taxed to construct a low-cost house that will shelter a family comfortably and at the same time present a neat and attractive appearance, and the result has been the portable house.

The illustration shows how a four-room house with bath and screened porch looks and the floor plan shows the interior arrangement giving dimensions of rooms and porches.

From the catalog of a prominent builder of these portable houses we glean the following which cannot fail to interest anyone who contemplates building a small house at the very lowest cost.

Construction Features.

Material—Selected California redwood, used outside and in. Oregon pine finish on the inside if desired.

Finish—Stained inside and out, color to suit. Sanitas cloth, colors and patterns may be selected.

Foundation—We furnish sufficient redwood to set the house one foot off the ground.

Ceiling—Wood panels, Sanitas cloth finish.

(Concluded on Page Fifteen)

READY BUILT HOUSES.

Owning One's Own House Is Now Made Possible at a Small Expenditure.

The ambition to own a home of your own is universal. It starts when we enter our teens and reaches its apex when the girl has been decided on. It is a well-known fact that the popularity and multiplicity of apartment houses and flats is due to the fact that we cannot afford to build our own home at the time when we want it the most. Until recently, a family that owned its own home was an object of envy because it cost a small fortune to purchase the ground and hire the contractors and carpenters. Even then the expense of the lumber and trimmings, to speak nothing of the plumbing and interior finish was so uncertain, that a wide bank account with properties of still further expanding if the occasion demanded it, was necessary.

It was owing to these facts that couples with modest incomes and still modest bank accounts were unable to satisfy their home-loving ideals and ideas that prompted the Ready Built House company, of Portland, Ore., to construct plans wherein a person could have a home of his or her own at a very modest cost and better still do the building oneself.

At the outset, one may have doubts that a really durable and attractive home can be built by an inexperienced hand. This was taken into account and remedied by forwarding plans as simple to understand as a first-grade primer. It is something like putting a puzzle together with the different pieces numbered so you can't go wrong.

The houses of the Ready Built House company are not portable houses but knocked-down houses. To put them together, all one has to do is to follow the numbers on each piece to correspond with the number on the plan and when the last piece is in place, one has a home that is attractive, durable, strong and homelike. Everything that goes into the building of a house is found in these plans—trimmings, mouldings, doors, windows, etc.

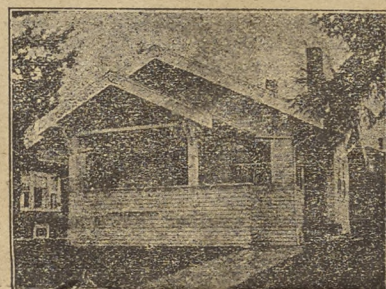
These ready built houses come in different sizes and in different designs. If your ideal is a cozy four or five-room bungalow, you will find many designs to choose from. On the other hand

if your home ambitions demand a more pretentious residence, you will find with all the trimmings and fixings that go with six or eight—even ten-room houses.

What fields of comfort are thus opened up. Perhaps you own a little lot in the suburbs which you have never used because it cost too much to build a house on it. You still had to pay your taxes just the same as if you were living on it. Or possibly that acre you have set out in fruit trees in the country is barren of a home with the exception of a shack that is hardly comfortable. Just imagine that with the expenditure of a very small sum, you can use this spot of God's green earth without having to go into debt or use up all your bank balance.

On the other hand, perhaps you have already built a house before such improvements as ready built houses were thought of, and you have use for a garage, or a barn, or a chicken coop. The Ready Built House company have such buildings all made up and with the plans in front of you and a hammer in your hand, you can put it up in a jiffy and still have money in the bank.

For ages, the best brains in the country have been working night and day to invent conveniences and efforts to make our lives happier and worth living. But with all the hundreds of thousands of inventions that have brought hundreds of millions of dollars to the inventors, what more could be of inestimable value judged by happiness and comfort then to put within your hand the ability to build your own home at a cost well within your means?



FIVE BIG ROOMS, \$600.

We furnish any number of rooms and any design you need. Send for catalog. Houses for \$100 and over.

Build your own home and Save Money.

You can do it easily and quickly.

No experience or expensive carpenters needed. Just common-sense and a hammer.

Every piece numbered to fit diagram—walls, doors, windows, hardware, interior finish, paint, etc., everything for a permanent, durable attractive house. The rest is easy. No further expense.

Send for plan catalogue and pick out one of the attractive cottages or bungalows. Also barns, garages, etc.

Write today and save money.

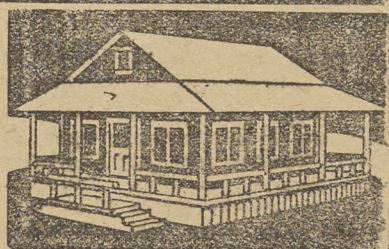
Ready Built House Company

976 Broadway.

Portland, Ore.



We build Portable Bungalows, Garages, etc., to your plans. WE ARE SO FAR AHEAD OF OTHERS WE'RE LONESOME. Exhibit, S. W. corner 16th and Hope Sts. West 856; Home 25911. LOS ANGELES, CAL.



YOUR PROSPERITY DEPENDS UPON YOUR ABILITY TO SAVE

When you decide to OWN YOUR OWN HOME and STOP PAYING RENT, you will have taken a long step toward accumulating an independence. We can save you ONE-HALF of your building cost. Our modern method of building Bungalows is the means of anyone acquiring an attractive, comfortable home.

Whether you want a CITY RESIDENCE, COUNTRY HOME, WEEK-END BUNGALOW or a GARAGE, get our estimate. Write to-day for free catalogue of K. P. C. Portable Bungalows or call and inspect them. Every building guaranteed.

KENYON PACIFIC CO.
No. 7 Franklin St., Near Market, S. F.

Our Weekly Fashion Service for the Home Dressmaker



Middy Blouse 5599; Skirt 5224

THIS is ideal weather for wearing muslins and chiffons and all the other dainty, diaphanous summer clothes one revels in, and it takes considerable courage to even think of velvet and broadcloth with the thermometer at—goodness knows what. But the new fall fashions are already designed, made, and being unpacked and shown to a favored few by the up-to-date suit houses, and even with the thermometer soaring, one may read of them while one luxuriates in hammock or porch chair, with a fan and an iced drink close at hand.

The fashion designers, obliged to re-name their colors for the new season, have hit upon the pretty, though rather misleading one, of "trefoil" or clover green, for certainly the clover-leaf was never so dark a green as this deep, rich, dark green that is masquerading under its odd French title.

The whole suit is of the green broadcloth, with the exception of the high stand-up collar and the cuffs, which are of velvet embroidered in a floral design in chenille. The plain underskirt is of the green broadcloth, and the broadcloth overskirt falls in long points front and back, and is caught in folds at the sides by the simple device of slashing a piece several inches deep from the edge of the overskirt at each side and drawing the slashed strips under the point at the back. This makes the full sides fall in folds.

The coat, cut away in front, has points on the hips, with rows of little green velvet buttons, and at the back it falls straight. The jaunty little hat is of velvet felt, with green velvet facing. "Coque" feathers trim it clear around and form a fancy stand-up. Altogether, it is an exceedingly smart outfit—for cooler weather than summer.

For Summer Fads.

The craze for beads has spread to hats now. For severely plain walking hats, the latest edict of fashion is to have strands of beads wound around the crown and falling in a tassel or two at the side. Light-weight wooden beads are used for hat trimming, and as a rule several colors are shown in the twisted strands. Beads of this kind can be purchased in a number of colors, but if the gown you want them to match or harmonize with be of such a color that you fail to find what you want, you can easily buy the uncolored beads and dye them yourself with ordinary dyes.

One of the new walking hats which I much admired was of white felt, the crown rather high and blocked with corners, the brim narrow, and faced



5599-5224—Even on sports and middy blouses the Japanese collar is worn, and it gives quite an air of style to these jaunty garments which are to be very fashionable this summer. In white jean, linen, or galatea, this blouse may be worn with a skirt of dark blue serge or linen, with Japanese collar, cuffs and band in harmonizing tone. Long sleeves are provided which are perforated for the length pictured, and an adjustable shield affords high neck should this be wanted. The skirt is a simple four-piece model with the raised waistline that is almost universal on separate skirts. Middy blouse No. 5599, sizes 14, 16, 18 and 20 years. The 16-year size requires 2 1/8 yards 36-inch material, with 1 yard contrasting. Price, 15 cents. Skirt No. 5224, sizes 14, 16, 18 and 20 years. The 16-year size requires 2 1/4 yards 36-inch material. Price, 15 cents.

5687-4935—Almost a perfect copy of the blouse worn by the Chinese maiden is this middy blouse known as the "Chink" middy blouse. It is slipped on over the head and laces in front. The collar is perforated for square outline. In Paris middy blouses like this are worn by smart women in brilliant red, green or yellow taffeta or charmeuse, though such an extreme style may not find favor over here. Middy blouse No. 5687, sizes 14, 16, 18 and 20 years. The 16-year size requires 2 3/4 yards 36-inch material, with 1 yard contrasting. Price, 10 cents. Embroidery design No. 11594, transfer pattern, 10 cents. Three-piece skirt No. 4935, measuring about 1 1/2 yard at foot, sizes 14, 16, 18 and 20 years. The 16-year size requires 2 1/4 yards 44-inch material. Price, 10 cents.

Ladies' Shirt Waist.

Without lining. Having long one-piece sleeves perforated for short sleeves, adjustable shield for high, round or square neck. May be made with Gladstone (or Lily) collar, Japanese collar or collarless. Price, 15 cents.

Sizes 32, 34, 36, 38, 40, 42, 44 and 46 inches bust measure.

Ladies' Waist.

Without lining. Having long one-piece sleeves perforated for short sleeves. Two styles of fancy collars and adjustable shield with standing collar. Price, 15 cents.

Sizes 32, 34, 36, 38, 40, 42, 44 and 46 inches bust measure.

Address THE CALIFORNIA FARMER 24 W. Santa Clara St., San José, Cal.

No

Name

Address

Size

NOTICE—All persons sending for patterns must be sure to give name, full address and number of pattern distinctly written. Until this is done delay is caused and satisfaction can not be expected.

Patterns delivered on mail orders in two or three days.

with bluebird-blue braid. The trimming was four strands of beads, twisted and falling at the right side in two tassels. One of the strands matched the blue of the Leghorn braid facing, another in the "champagne" color of the natural wood, the third in green and the fourth a dull, rich red. The general effect is as pleasing as the brilliant Roman-stripe bands, but the beads are, of course, much more novel, and weigh but little more than the ribbon.

The wearing of beads for bracelets is another fad that is considered very "smart" at the moment. Some of them have hanging tassels of beads, and others tassels of silk to match the colors of the beads.

There seems, in fact, no limit to the length for which the craze for beads will be carried. Worn around the neck, they are now so popular that many women feel that a toilet is incomplete without a string or two of beads hung about her neck. They have even reached her shoes, and beaded tango slippers and pumps are very popular. Waxed ribbon, which is being used on hats to almost the exclusion of all other sorts, is also being used by the up-to-the-minute miss for tying her sandals and shoes, instead of the gros-grain ribbon which has held its own so long.

The Fancy for Flowers.

Artificial or simulated flowers are used everywhere, from our lingerie, where little chiffon buds add to its daintiness, to our parasols, which are bravely trimmed with stiff bunches or more careless garlands. Full-blown roses loop up the tunics of skirts or cascade gaily down the shoulders of the corsage. Every variety of bloom is imitated, even the wild flowers of field and wood. The arbutus makes a delightfully prim little boutonniere, and a single May-blossom is taking the place of the gardenia, which was the winter's favorite for street wear.

With the influx of hats composed wholly of flowers, have come also the flower muffs and neckpieces, which add a delightfully charming touch to even the simplest costume. Hat, muff and neckpiece "match" some certain flower



Chinese Middy Blouse 5687; Skirt 4935

THE DRESSMAKING LESSON.

The Planning of a New Gown.

YOU have learned the stitches and utensils used in sewing and dressmaking, so are now ready to take up the actual work of making the gown. Dressmaking is divided into four parts: (1), planning the gown; (2), drafting the gown; (3), cutting the gown, and (4), finishing the gown. We will begin today with the planning of the gown.

The first thing to be thought of in planning the gown is the figure of the person for whom the gown is to be made—whether she be tall and slender, short and stout, light or dark—for upon these points rests the kind of gown best suited to her. For the small person the gown should have long, straight lines to make her look tall. The tall, slender person should have broken lines, lines running round, cutting up the length of the garment. For a short, stout person the back width should be broken so that it will look narrower.

As to the color to choose, we must remember that all persons cannot wear the same colors. Complexion, color of hair and eyes must be considered. For a fair-complexion lighter shades may be used; for the fallow-complexioned, brown, dark blue, olive green and black. But where economy is to be considered, and not many dresses can be had, it is well to choose the darker shades anyway, since they can be worn much more frequently without attracting undue attention.

And, for our first dress, let us think of the every-day gown. Almost any materials may be used for this class of gown except transparent materials, which are too dressy. In making a one-piece dress, which is both a popular and easy style to make, it is so easy to select a pattern and cut it from that, that drafting, except by the professional dressmaker, is rarely done. The measurements used in drafting are, however, quite as great a necessity in fitting a dress from a bought pattern, so in our next lesson we shall give directions for taking measurements for garments.

Embroidered chiffon blouses are among the season's favored styles, and this material is also used for veiling evening dresses.

measure inside the hat if possible.

The following measurements must be noted:

Size of head, circumference of edge wire, width of brim, front; width of brim, back; width of brim, left side; width of brim, right side; width between wires round edge, height of crown, diameter of crown.

THE MILLINERY LESSON.

Sumarizing Directions For Wire Shape-Making.

IN making a wire shape, directions for which were given in last week's millinery lesson, the following points summarize the salient features the amateur would do well to remember:

Two-inch turnings on round wires. One-half inch turnings on support wires.

Make head-line first.

All wires if possible in one length.

All joints at the back.

No. 6 or No. 8 wire is best for working.

For a Large Crown—(Which is made separate from the brim):

1. Cut off two circles the size of the head-line with turnings and fix into circles.

2. Cut off eight pieces of wire the width of brim plus two and one-half inches.

3. Nip these lengths on to one head-line leaving the two and one-half inch length standing up for head-band.

4. Nip the short lengths on to the other head-line.

5. Nip on circumference and fix divisional wires as before.

Crown—Cut off a length the size of the circumference of crown wire plus turnings and fix into circle. 2. Prepare crown supports and nip onto circle, the fixed divisional wires for crowns.

A Turned-Up Edge—The edge is allowed for when cutting off support wires and edge turned sharply. The same order and plan of working is adopted when curved edge is needed; the wires are turned up and the circumference wire is generally smaller to allow the edge to curl.

Mushroom Brim—The brim is turned and the circumference wire drawn in to form the drooping brim.

To Copy a Shape—Great care must be taken when copying a shape. Notice all peculiarities of shape, and

being used as the "motif," though sufficient variety is given by adding other flowers in lesser quantity.

WOOD PORTABLE HOUSE.

(Continued From Page Thirteen)

Screens—Galvanized fine mesh wire, over every opening.

Chimney—We will furnish fireproof terra cotta chimney, covered with galvanized iron, complete, ready to install at small additional cost. If brick chimney and fireplace is desired, we can build house to suit.

Porches—We can screen any or all porches or add additional porch area to suit.

This portable house is the factory-made house that comes to you in sections of a size convenient to handle.

Every house is erected complete before shipping, so that it is not necessary to employ a carpenter to erect them. Every section, door, window and screen, etc., is properly fitted before leaving our factory.

On account of the patent slip-joints you will find the house very simple to erect and when erected you will have a house complete with floors, doors, windows, screens, hardware, etc., ready to move into.

You can enlarge at any time by the addition of one or more sections, allowing you to add additional rooms to your house at the minimum of expense.

Ventilating System—Our system gives ventilation to all parts of the building by allowing air to pass through space left in the lower floor and ceiling. This allows the air to follow the walls to the roof and out at the gable ends.

The ventilators are screened so that no insects can crawl in and they are on hinges so that they may be closed in cold weather. The asbestos lining makes the house easily heated in cold weather.

Putting the House Together.

Frame construction, good Oregon pine, well seasoned, dressed on all sides, firmly tied together by patent fittings, made from cold pressed steel and bolted to frame timbers in such manner that it is not necessary to remove bolt, screw or nail when erecting the frame.

All houses are set up complete at our factory, eliminating all chances for misfits.

Assembling all materials at the factory and setting each house up before it leaves, makes them very simple to erect. Where buildings are shipped any distance we send blue prints and number each piece. One man and a helper will set a five or six-room house up in two to four days, if the ground is level.

HOW TO SELECT AND OPERATE AN INCUBATOR.

Users of Incubators Are Given the Following Suggestions in a New Free Publication of the Department of Agriculture Entitled "Natural and Artificial Incubation of Hen's Eggs," (Farmers' Bulletin No. 585).

SEE that the incubator is running steadily at the desired temperature before filling with eggs. Do not add fresh eggs to a tray containing eggs which are undergoing incubation.

Turn the eggs twice daily after the second and until the 19th day. Cool the eggs once daily, according to the weather from the seventh to the 19th day.

Turn the eggs before caring for the lamps.

Attend to the machine carefully at regular hours.

Keep the lamp and wick clean.

Test the eggs on the seventh and 14th days.

Do not open the machine after the 18th day until the chickens are hatched.

In setting up and operating an incubator follow the directions of the manufacturer. There are a large number of reliable American-made incubators, but the department cannot recommend any particular kind. It does advise, however, that poultryraisers select an incubator that has already given satisfaction in the vicinity where it is to be used. As the cost of the machine is small compared with the eggs it hatches, it is a good investment to get a well-constructed incubator instead of a cheap one, which requires more attention and wears out quicker. The equipment of most incubators is so subject to change that particular lamps, regulators, etc., cannot be recommended. The lamp, however, should have a bowl large enough to hold enough oil to burn 36 hours under average weather conditions, should be easy to remove and replace, should set absolutely tight in position, and be at a convenient height.

Incubators Holding More Eggs Preferable.

An incubator holding 60 eggs calls for as much time and care as one holding 360, and for ordinary use, a machine of at least 150-egg capacity seems most satisfactory. On those large farms that use individual-lamp

incubators, the machine usually holds from 300 to 400 eggs, and a small machine is sometimes used for a preliminary test, the eggs being transferred to the larger incubator after the first or second test. Large machines cost less in proportion to the number of eggs they hold than smaller ones. However, smaller machines are valuable under special conditions, as for preliminary testing.

Chickens are more even in size when they are all hatched within a short time of each other than when the incubating period is extended over many weeks. Many poultrymen, therefore, believe that it pays to have an incubator large enough to hatch most of their stock in two, or at most, three hatches. Much time in tending to the incubators and brooders is saved in this way. A fair estimate for a poultry farm is to have the incubator hold as many eggs as there are hens, provided that about one-half of the flock is to be renewed yearly and no outside hatching is carried on.

Well-Ventilated Room for Incubator.

A well-ventilated room, which is not subject to great variations in temperature, should be selected for the incubator. If built above ground, the wall should be double and the entire building insulated. In sections that have a mild climate, machines may be operated in buildings with single walls, but a well-insulated room is always preferable.

Where only a few small machines are used they are generally run in a room or cellar of the house. Good results in hatching may be secured in cellars as well as in rooms, and these are more commonly used. Many of these cellars are provided with some system of ventilation besides windows, muslin screens on the windows often providing good ventilation without draft, and keeping the sun from shining on the machines. Cement floors are easier to keep clean than dirt floors. Where the equipment is extensive, a special cellar or house should be provided.

How To Operate a Machine.

In setting up the machine, get it perfectly level. Do not plane off the door if it sticks, until the machine has been heated up and thoroughly dried. Run the machine at about 102 degrees F. for a day before putting in the eggs. Afterward do not touch the regulator for several hours, as it takes this time for the machine to come back to its regular temperature.

The temperature should remain nearly even. When the bulb of the thermometer rests directly on the eggs the temperature is usually held at 101.1-2 degrees to 102 degrees F. the first week, 102 degrees to 103 degrees F. the second week, and 103 degrees F. the last week; while a hanging thermometer is operated at about 102 degrees to 102.1-2 degrees F. the first two weeks, and 103 degrees F. the last week.

The eggs tend to throw off more heat as they develop, so that occasionally the regulator needs to be changed slightly, but it should not be changed any more than is absolutely necessary. The temperature of the egg chamber may be lowered by lowering the flame of the lamp in the middle of the day. Regulate the incubator before opening the door to tend to the eggs. Most operators tend to their machines two or three times daily.

Causes of Poor Hatches.

The cause of poor hatches is a much discussed question, which depends on a great variety of circumstances. A poor hatch is more apt to be due to the condition of the eggs previous to hatching than to incubation, although improper handling of either factor will produce the same results. When eggs fail to hatch, see whether the breeding stock is kept under conditions which tend to produce strong, fertile germs in the eggs, if the eggs have been handled properly before incubation, and whether the conditions were right during incubation, as judged by the time of the hatch.

A daily temperature record should be kept of each machine. The operator can thus compare the temperature at which the machines have been kept, which may prove valuable in the future work, especially if the brooder records can be checked back against those of the incubator.

Every poultryraiser who contemplates setting up an incubator is advised to write for the new bulletin, to the United States department of agriculture, Washington, D. C. Among other details it has paragraphs on moisture and ventilation, testing eggs, and disinfecting and storing incubators.

Do not forget that in the composition of an egg there is a great proportion of water, and the laying hen cannot produce eggs unless she has all the water she wants, and at the time she wants it.

POULTRY.**SANITARY SURROUNDINGS.****The Most Important Condition in Poultry Raising is Proper Sanitation.**

By J. Jeffrey.

THERE is perhaps no branch of poultry work about which more questions are asked or information is more wanted than diseases. There is also no branch of work that it is better for the poultryman to keep away from than doctoring sick fowls. Poultrymen throughout the country suffer heavy losses from disease at times not so much because they do not know how to cure diseases as because they do not understand the principles of sanitation and the importance of preventive rather than curative measures. The importance of sanitation has increased with the growth of the poultry industry, and further increases in the number of fowls kept will only intensify the importance of this subject.

Fresh Air and Sunshine—Poultry houses must be built with a view of providing plenty of fresh air and sunshine for the birds and the houses must be kept absolutely clean. While houses have been mentioned first, the ground around the buildings is perhaps more often to blame for troubles, both with the chicks and with adult fowls. In fact, it is being recognized more and more that the condition of the soil can very largely make or mar success in poultry raising.

Failure to realize this, and that soil originally in good condition for poultry raising may, by misuse and neglect, get into such a condition that profitable poultry keeping on it is impossible, is responsible for many of the failures we have with poultry. While this condition becomes apparent more quickly and is more often found among flocks kept on limited quarters, such as a town lot, it is not by any means unknown among farm flocks.

Grow Crops to Purify the Soil—Many people who make a success on the start with a few fowls very quickly get into trouble for which the ground is responsible when they increase their flock and do not take precautions to prevent the ground from being tainted from the droppings. Poultry benefits by crop rotation just as much as any other farm crop if it is made a feature in the rotation. The best way to keep the ground in good condition for poultry is to grow crops on it as well as poultry. If the land has already become unfit for raising poultry on, it will be best to give up this line of business for a time. The free use of lime and the growing of crops, with the necessary turning of the ground, are the best ways to freshen the ground and get it back into such a condition that it will be profitable to grow chickens on.

Chickens grown on ground which has become tainted generally have an unthrifty, sickly appearance, and in this condition are much more subject to disease. Chicks raised on the same ground for a number of years without precautions being taken to freshen it are usually more or less subject to gapes and roup, and in fact, to any disease to which fowls are subject.

Removal of Sick or Dead Chickens—Another important thing is the disposal of all dead fowls. One of the most destructive poultry diseases we have is called limber-neck. This trouble is attributed to the fowls eating decaying animal matter. The most common source of the disease is a chicken that has gotten out of sight and died. The other chickens eat the carcass and the insects which infest it soon after death. Care should be taken to see that any fowls, or even larger animals, which die are removed and either burned or deeply buried. Most states have a law requiring that all dead animals be buried or burned or disposed of in such a way that they are not a menace to the health of the community.

Abundant Range Advantageous—The farmer who has abundant range for his chickens, where they may secure plenty of green food and insects, and where the range may be changed from season to season, has a great advantage over the man who must keep his stock in a small space.

If only one place is available this may be kept in sweet healthy condition by the use of lime and by plowing and cropping between seasons. If not possible to plow up a large space at one time, divide the lot and freshen up one part of it, then turn the stock into that portion—and plow and renovate the other half. Even when cared for in the best possible manner, this is not as desirable as a change to new ground or ground that has been used a season or two for growing crops.

HIS OWN MEDICINE.

"Generally run down, sir?" queried the druggist; "slightly seedy and want a good toning up?"

The pale-faced customer nodded.

"Well, I've the very thing for you—Jenkin's Juvenator. Three doses a day and more if necessary. Fifty a bottle."

"No, thanks," said the pale patient.

"But, my dear sir, it's the rage of the day. Jenkin's Juvenator is the greatest discovery of modern medicine. It's the rage of the season. Everyone is—rejuvenating, you might say."

"Yes, but I think I'd rather try something else," replied the customer.

"Nonsense," pressed the chemist. "I tell you Jenkin's Juvenator will have more effect on you in a single day than any other medicine could have in a month. It cures everything from coughs to corns. What is your objection to it?"

"Why nothing, only I'm Jenkins."—Ladies Home Journal.

Talks to Poultry Raisers

NUMBER FIFTEEN

By HARBAUGH

ARE YOU raising Poultry for Pleasure or Profit?

If you are in the business for PROFIT it will PAY YOU to take advantage of my selling system.

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CHOOSING A BREED A DIFFICULT PROBLEM FOR BEGINNERS TO DECIDE

Practice of Leading Poultry Farms Is Safest Guide.

By J. Harry Wolsieffer
Poultry Judge, Lecturer and Author

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Choosing your breeds depends largely on what part of the country you are in and also for what purpose you are raising poultry. If your object is to sell eggs, you select one breed. If you intend to market carcasses, another breed is desirable.

In deciding this question it is well to watch the custom of leading poultry farms in your section of the country and you can't go far wrong. The following article will give you some valuable points on the subject.

THE average beginner when starting poultry operations has a hard time as a rule to decide which is really the best breed to choose.

In spite of the often-repeated statements seen in the poultry press from time to time as to leading all-round breeds, it can be frankly stated that no one variety combines all the good qualities of the many breeds and varieties of poultry now on the poultry map. Some breeds are better for egg production than others; some are better for meat than others; some combine the qualities of both eggs and meat to a large extent, while others are producers of eggs, but as meat fowls are of little value.

It has often been advocated that the poultry raiser is best pleased and more apt to succeed in poultry in choosing the breed that suits his fancy, and yet from a dollar-and-cent standpoint in this they are not always wise, for their fancy may run to one of the breeds that is not known for either great egg production or for market qualities and yet possess beautiful feathering and be pleasing to the eye.

Difference in Qualities.

Of all the varieties adopted by the American Poultry association and recognized as standard-bred fowls, there is a difference in both egg-producing powers and meat qualities. Naturally, great claims are made for all of them by those who are breeding the different varieties. In a measure the claims are just and honestly made, from the mere fact that life is too short for any breeder to give all a fair trial, consequently the breeder of any one variety who has made a success of them does not know except by hearsay of the qualities possessed by some other breeds other than his own.

To be fair and impartial to all varieties of fowls in a practical manner is a hard proposition and can be taken only from the success and the number of poultry raisers who are breeding these fowls which in their hands in this country seem to outdistance the other varieties, because the American poultryraiser is shrewd and only those fowls which possess merit will long be found in his yards or on the large plants.

It is hardly fair to take in the purely fancy fowls from a fancier's standpoint in discussing the merits of the different breeds, for these include a different class of fowls, such as Bantams, Polish, etc., which, while laying quite a few eggs, cannot be considered as commercial fowls. The true way to gauge the value of any breed is by the number of them found on the farms,



Don't Neglect Your Hens

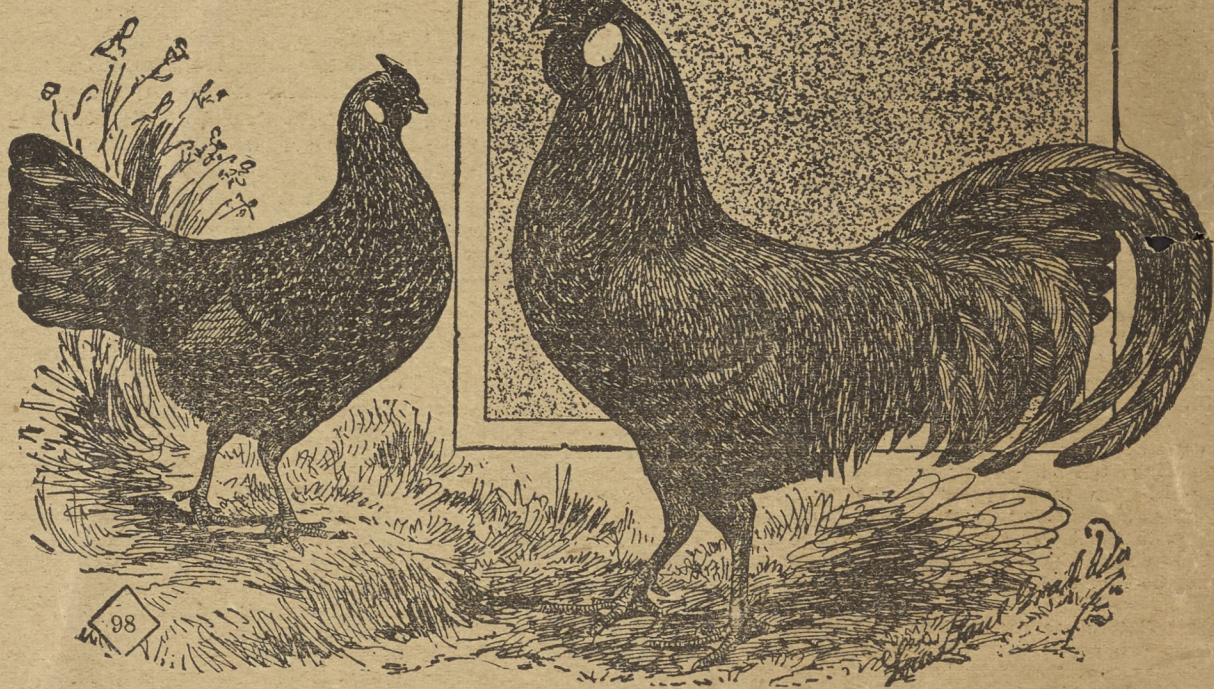
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MORE EGGS

Are shipped from Petaluma than from any other place in United States. Petaluma Weekly Poultry Journal tells how to produce them. It is practical. \$1 a year; sample free. F. H. SNOW, 16 Washington St.



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Gold-Spangled Hamburgs.

Golden-Spangled Hamburgs are one of the oldest and most beautiful standard breeds of poultry. The Hamburgs were developed in Holland from the Dutch Every-day Layers, a utility fowl which was very popular for at least two centuries.

Penciled Hamburgs were developed first, and Spangled, White and Black Hamburgs followed. The Spangled Hamburgs were originated by British fanciers, who crossed the Dutch fowl with home-grown stock—probably the

old spotted-breasted Game. They produced a beautiful fowl, larger than the Penciled Hamburgs, which became known widely for egg production.

Both Golden Spangled and Silver Spangled Hamburgs have been developed to a distinctive type, with plumage rivaling in beauty that of the pheasant. The Golden-Spangled Hamburg has many attractions for the home poultrykeeper. It is a graceful fowl, and its large, red rose comb and pendant wattles, and the large, white ear-

lobe make it striking. Its plumage is a handsome reddish golden color, each feather finishing in a big round, green-black spangle.

Good hens will sometimes lay more than 200 eggs a year, but the eggs are small. The surplus stock is always valuable for use on the home table, but will not sell readily in market, because of the bluish-white skin, blue legs and small size when dressed.

The difficulty of securing perfection in their wide range of color requires the greatest skill of breeders.

ACTIVITY DENOTES VIGOR.

Activity is another point to consider in seeking for vitality. Usually it is the very active, rather restless bird that shows the most vitality as time goes by. Here again the breed characteristic must be taken into account. But even then the more active breeds are the most vital in nearly all instances. Keep the quick-moving alert-standing birds and you will make progress and increase the vitality. With the increase in vitality you increase the egg yield, the fertility of eggs for hatching, and the "livability" of every chick hatched.

Carriage or altitude of the entire body is closely related to activity. The carriage should be alert and usually upright to show the fowl of highest vitality. The droopy fowl is generally sick or of low constitutional vigor; that is, vitality. Dispose of these either by treatment, if caused by disease, or by marketing, if there are sign-tokens of low vitality.

Fowls that are sick should be culled out or removed from the main flock. But these cannot be marketed unless first cured. A seriously ill fowl can seldom be doctored to advantage unless very valuable. Killing and burning the carcass is the best treatment for such.

Culling is not a one-time job, but should be repeated. By constantly watching for birds that show lack of good quality and the poorer quality may be eliminated, a few at a time, each day.

There are so many requirements for the different breeds that no enumeration of them will be made, but the beginner can familiarize himself, and should, with these standard requirements. Yet only the really serious defects should be culled out by the real beginner. They are known as "disqualifications."

It is better to have a smaller flock with all fowls of good quality and high earning power, than a larger flock carried at a loss.

overcome by those who admire the meat breeds, by the extra pounds received in the sale of broilers of 2 pounds and over, roasters weighing 4-12 to 5-12 pounds at 22 cents and over live weight, and in the sale of hens, before going into full moult, which weigh from 5 to 8 pounds and sometimes more, for which at that time—July and early August—15 to 18 cents per pound is offered.

A true guide for the beginner is found principally in the practice of successful poultry plants throughout the country.

It will be found that except in very rare cases in the Eastern zone the White Leghorns lead all others on the commercial plants. This is due to the price paid for the color of the eggs produced by them. Second, due to the fertility of the hatching eggs in early spring and the fact that they are non-sitters, White Leghorns require less floor space than the heavier breeds, and can be kept in larger flocks or units than the larger fowls. Plymouth Rocks, Wyandottes, Rhode Island Reds and Orpingtons, in order named, can be perhaps found on the plants of the East, while, as before stated, on the farms, backyards and plants, taking the country over, the Plymouth Rocks and Wyandottes at this writing will and have led all others. This is a pretty sure indication that the breeds that have found their way and held favor in the hands of the majority of poultry raisers, are the real money-makers. For no breed or variety, from a commercial standpoint, can stand the test of time if it is not a producer, and non-producers are not found on the commercial plants of this or any other country. Breeds may be boomed and gain in popularity through the publicity of the press, but the boom cannot be lasting unless the breed can stand the test of productiveness.

It, therefore, behooves the breeders of those varieties that are now popular to see that the utility values are increased each year, for in spite of the fact that the poultry lovers of this country love the beautiful, they also recognize the value of utility, and few will long allow fowls to remain in their yards or on the farm that will not pay the feed bill.

So the average beginner can find among the many standard-bred fowls those that possess both feathers pleasing to the eye and their taste, and also possessing the qualities that will make for their owners a profit.

Advice to Beginners.

So the beginner, in choosing a breed, especially if the profit in poultry is considered, must consider these essentials as to the best returns for the eggs produced. In a measure the increased price paid for the white-shell egg is



\$2.75
Per Cwt.

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